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OPEN SPACE AND CONSERVATION

ELEMENTS

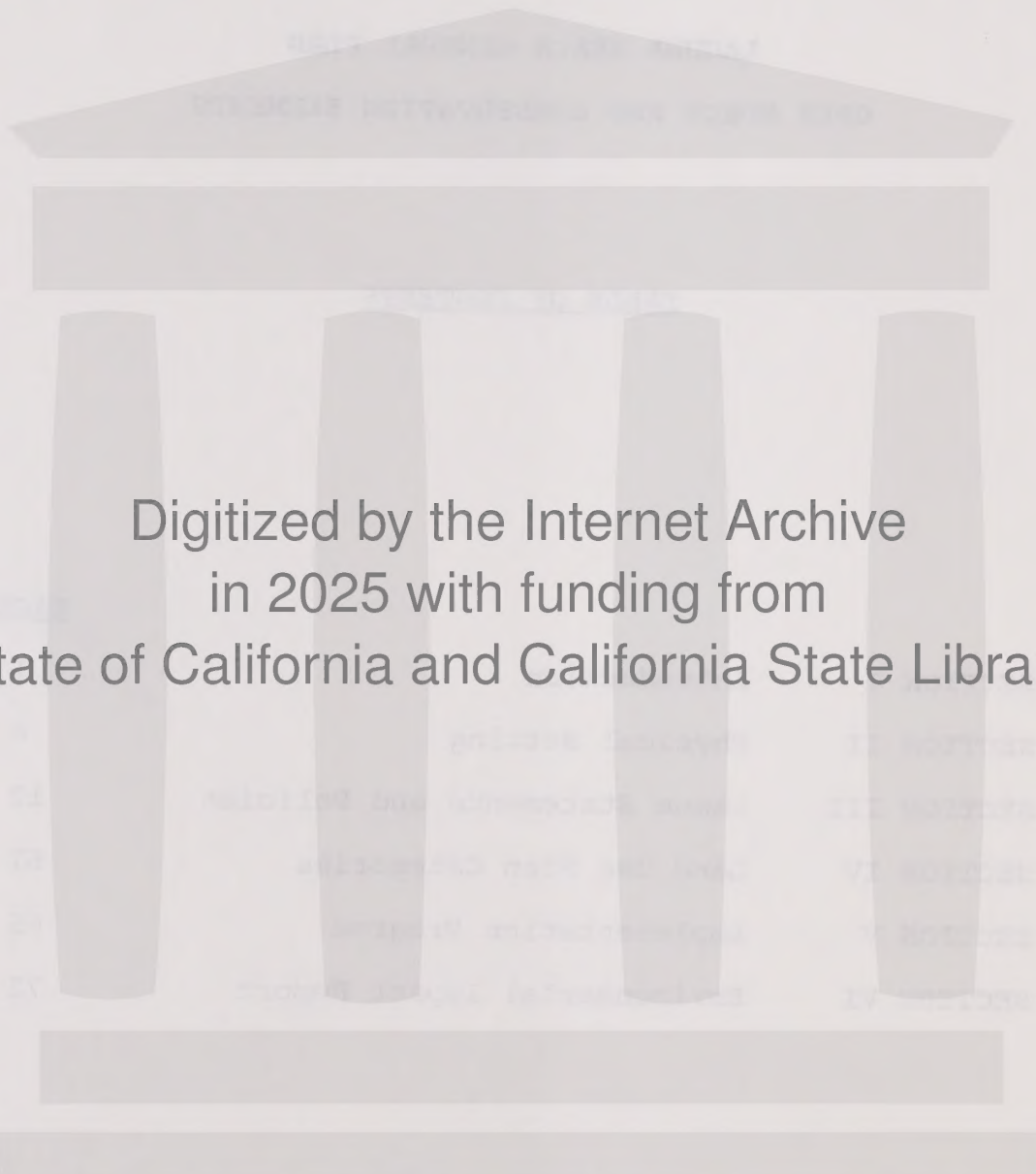
City of Laguna Beach
Adopted by City Council
on May 1, 1984.
Resolution No. 84.37

This publication was prepared with financial assistance from the California Coastal Commission under the provisions of the Coastal Act of 1976.

LAGUNA BEACH GENERAL PLAN
OPEN SPACE AND CONSERVATION ELEMENTS

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INTRODUCTION

1. Purpose and Scope of the Report

The purpose of this report is to provide a comprehensive overview of the current state of the field of artificial intelligence (AI) and its applications. The report will focus on the following areas: the history and development of AI, the current state of the field, and the future of AI. The report will also discuss the ethical implications of AI and the role of AI in society. The report is intended for a general audience and is not intended to be a technical or scientific treatise. The report will be written in a clear and concise manner and will include a bibliography of the sources used.

2. History and Development of AI

The history of AI can be traced back to the early 20th century when scientists began to explore the possibility of creating machines that could think and learn like humans. The development of AI has been a long and曲折的过程, with many setbacks and breakthroughs.

In the 1950s, the field of AI was largely dominated by the work of Alan Turing, who is often considered the father of AI. Turing's work on the Turing Test, which is a test of a machine's ability to exhibit intelligent behavior that is indistinguishable from that of a human, laid the foundation for the field of AI. In the 1960s, the field of AI began to expand, with the development of the first AI programs, such as the General Problem Solver (GPS) and the Logic Theorist (LT).

In the 1970s, the field of AI began to mature, with the development of the first AI languages, such as Prolog and Lisp. The 1980s saw the rise of expert systems, which are programs that can solve complex problems by using a knowledge base and a set of rules. The 1990s saw the development of the first AI agents, which are programs that can interact with their environment and learn from their experiences. The 2000s saw the development of the first AI systems that could learn from data, such as the Deep Blue chess program and the IBM Watson Jeopardy! program. The 2010s saw the development of the first AI systems that could generate human-like text, such as the OpenAI GPT-3 model and the Google AI Language model.

THE INTRODUCTORY SECTION ESTABLISHES THE
FRAMEWORK FOR OPEN SPACE AND CONSERVATION
PLANNING IN LAGUNA BEACH BY EXPLAINING THE
LEGISLATIVE REQUIREMENTS FOR THE OPEN SPACE
AND CONSERVATION ELEMENTS AND DESCRIBING
THE ORGANIZATION, CONTENT AND APPLICATION
OF THIS DOCUMENT.

Section 1: Introduction

Legislative History and Authority

In 1970, the State Legislature required that all cities and counties adopt open space and conservation elements as part of their general plans. The legislation cited its purpose in enacting this requirement as including preserving open space lands: discouraging premature conversion of such lands to urban uses; providing for orderly growth and development; and conserving natural resources. The open space and conservation elements may be treated as separate documents or combined into a single plan. The City has chosen to combine the elements because of the inter-relation of open space and conservation resources in the community. In order to explain the principal concerns of each element, however, this introduction begins by discussing them individually.

A. Open Space Element

Government Code Section 65560(b) defines "open space land" as any parcel or area of land or water which is essentially unimproved and devoted to an open space use. This includes:

- (1) "Open space for the preservation of natural resources including, but not limited to, area required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bay and estuaries; and coastal beaches, lakeshores, bank of rivers and streams, and watershed lands.
- (2) "Open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber; areas required for recharge of ground water basins; bays, estuaries, marshes, rivers and streams which are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.

- (3) "Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches and rivers and streams; and areas which serve as links between major recreation and open space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.
- (4) "Open space for public health and safety, including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs and areas required for the protection and enhancement of air quality."

As evidenced by these provisions, an open space element must address a wide range of interacting issues. Resolution of the issues may involve difficult choices between competing objectives. One common objective, however, in the evaluation of these issues, is to safeguard and protect significant open space lands.

B. Conservation Element

The Government Code defines a conservation element as intended for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. The conservation element may also cover any of the following: (1) the reclamation of land and waters; (2) flood control; (3) prevention and control of the pollution of streams and other waters; (4) regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan; (5) prevention, control and correction of the erosion of soils, beaches and shores; (6) protection of watersheds; (7) location, quantity and quality of the rock, sand and gravel resources.

The scope of issues for this element is somewhat narrower than that of the Open Space Element. The majority of Conservation Element issues can be categorized under two of the four Open Space Element areas of concern: "Managed Production of Resources" and "Public Health and Safety". These Conservation Element issues are not specifically related to land, but rather are oriented toward assuring that the consumption and utilization of natural resources is

undertaken wisely. By combining the Open Space and Conservation Elements, the City can approach these issues in a comprehensive manner.

Scope of Issues.

The legislative parameters for open space and conservation concerns are relatively broad and include a number of issues that do not apply in all jurisdictions of the State. The Government Code specifies that the general plan need address the nine mandated elements only "to the extent that the subject of the element exists in the planning area." Accordingly, the principal emphasis is placed on issues relating to the City's coastal and hillside settings, its large areas of hillside open space and attendant natural features, and the natural hazards that are associated with the City's environment. Resources such as large scale farming and forest areas are not present in the City and will not be addressed.

History of Laguna Beach Open Space and Conservation Element.

Open space and conservation planning was first formally addressed in 1973, when a Citizens' Advisory Committee was formed to provide public input to the City Council in the development of Open Space and Conservation Elements of the General Plan. These elements were adopted on November 21, 1973, and amended once on June 12, 1974.

In the late 1970's, the City became increasingly involved in developing a Local Coastal Plan. As this effort continued, it became apparent that a number of general plan elements needed to be revised to meet the requirements of the Coastal Act. In addition, development pressure in the City's hillside lands increased the need to define the community's open space values. In response, the City commissioned a comprehensive biological inventory, which was completed in 1983. This report, along with the resource valuation conducted for the Local Coastal Plan and the input from the Open Space/Conservation Citizens Committee, forms the basis for the new Open Space/Conservation Element.

Geographic Application.

The general plan covers not only all territory within the City boundaries of Laguna Beach, including Sycamore Hills, but also may include a "planning area" -- any area outside the jurisdiction's boundaries which, in the planning agency's judgment, "bears direct relation to its planning." (Government Code Section 65400.)

The planning area for the City encompasses the Laguna Greenbelt, 10,000 acres of largely undeveloped lands surrounding the City (see the Land Use Element for greater detail regarding the Greenbelt). The Open Space/Conservation Element places special emphasis on this planning area for the following reasons:

1. The boundaries of the planning area generally correlate with the boundaries of the Laguna Canyon watershed. Any alterations of the land within the watershed area that significantly change runoff characteristics will, in turn, affect the runoff levels and flooding potential within the main drainage course of the Canyon. This is a particularly significant concern, since the Laguna Canyon drainage channel flows directly through the downtown area of the City.
2. The potential for wildland fires is very high in the hillsides of both the City and the planning area. In addition, the planning area is generally situated upwind from the City. Under Santa Ana wind conditions this could be a contributing factor to the spread of wildland fires.
3. The visual resources of the City and the planning area are highly similar and the viewsheds of the two areas are interrelated. Panoramic vistas from the City's hillsides in many instances extend into the planning area. Furthermore, large portions of the planning area are visible from Laguna Canyon and El Toro Roads, which are the only two routes into Laguna Beach from inland areas.
4. The open space areas within the City and the planning area are similar with respect to landforms, natural vegetation and wildlife habitat characteristics.
5. The combined hillside areas of the City and the planning area provide an excellent setting for numerous outdoor recreational opportunities such as hiking and equestrian trails, and nature preserves.

Relationship to the Local Coastal Plan.

The coastal zone in Laguna Beach represents some 4.78 square miles of land, encompassing the entire City limits except for Sycamore Hills, which consists of 522 acres at the intersection of Laguna Canyon and El Toro Roads, inland of the City. This circumstance requires the City to prepare a Local Coastal Plan which incorporates the provisions of the California Coastal Act of 1976. The City's Local Coastal Plan addresses five principle subjects:

1. Recreation and Visitor-Serving Facilities and Uses.
2. Parking and Circulation.
3. Environmentally Sensitive Areas.
4. Shoreline Access.
5. Undeveloped Lands.

Given the interrelationship between these subjects and the City's general plan, the coastal plan has been physically integrated into the Open Space/Conservation and Land Use Elements. These general plan elements contain policies related to the above

referenced subjects and are intended to implement the provisions of the Coastal Act. A complete description and analysis of these subjects is contained in a separate document which serves as a technical appendix to the general plan. By consolidating the substantive issues of the coastal plan into the general plan, the City is able to achieve an internally consistent long-range planning program, while responding to the mandate of the Coastal Act and interests of the local citizenry.

Citizen Participation.

Public participation has traditionally performed a valuable function in the planning process, particularly in reflecting community values and goals. In Laguna Beach, public participation in the Open Space and Conservation Elements began in 1980, with an Open Space/Conservation Committee which was one of five citizen advisory committees appointed to study the various elements of the general plan. The committee's ideas and recommendations were particularly important in the development of this element and in establishing community goals and policies.

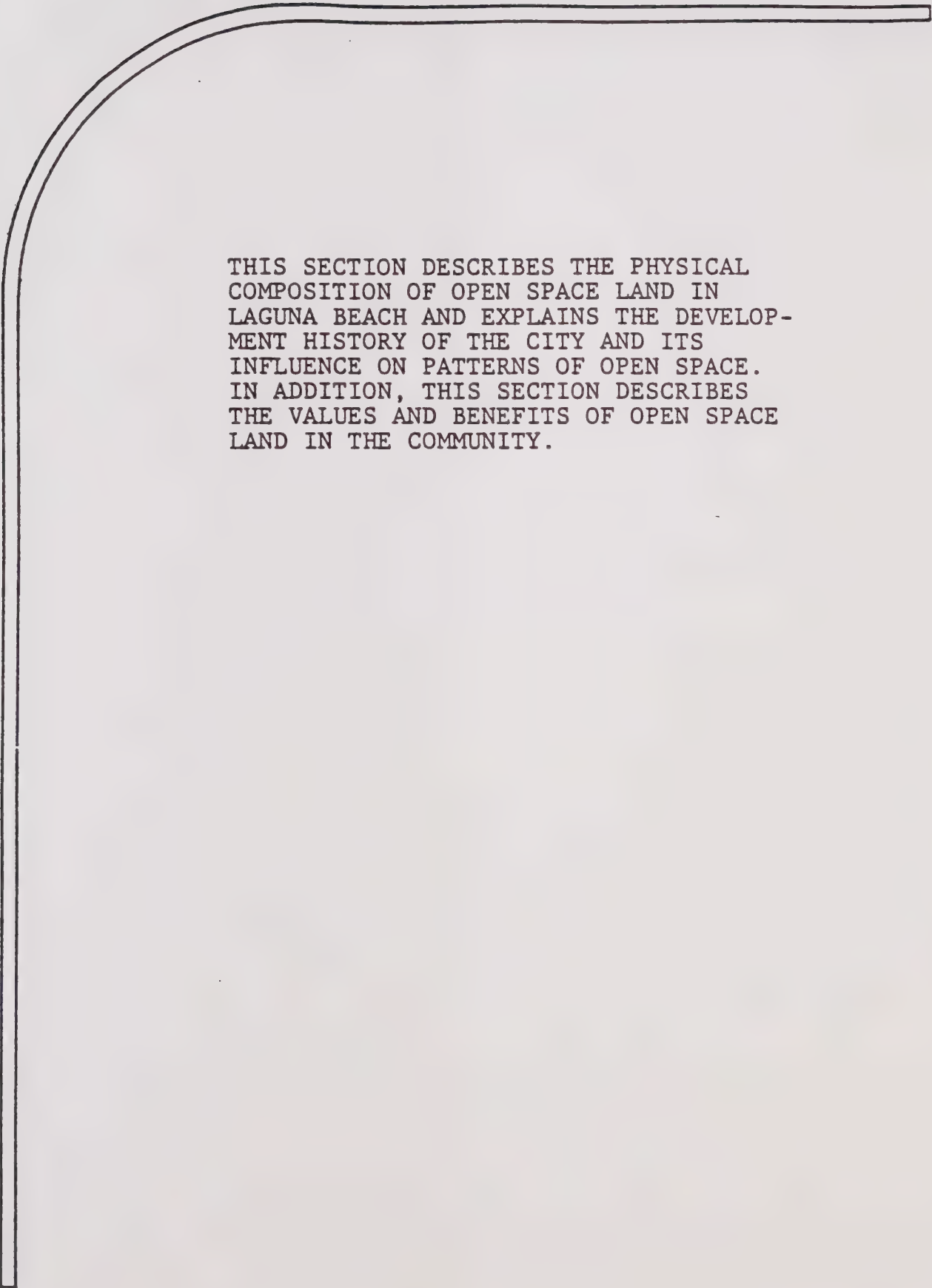
Organization of the Open Space/Conservation Element.

The element is divided into six sections. The first section introduces the document, and provides the history and background of open space planning in Laguna Beach. The second section identifies open space and conservation resources and discusses their importance to the City. Section III consists of a series of issue statements, followed by policies that set forth the manner in which the City will deal with the issue. Section IV describes the relationship of the Land Use Element Map to Open Space/Conservation regulations. Section V outlines the actions that will be necessary to implement the policies in the element, and Section VI describes the environmental impacts of the element.

Section 65300.5 of the Government Code requires the various elements of a General Plan to be internally consistent and compatible in terms of community goals and policies. For this reason, the Open Space/Conservation Element must be read and implemented in context to the City's other General Plan elements. The Land Use Element is an especially important counterpart to this element, providing the basic structure for the location and distribution of future development.

PHYSICAL

SETTING



THIS SECTION DESCRIBES THE PHYSICAL
COMPOSITION OF OPEN SPACE LAND IN
LAGUNA BEACH AND EXPLAINS THE DEVELOP-
MENT HISTORY OF THE CITY AND ITS
INFLUENCE ON PATTERNS OF OPEN SPACE.
IN ADDITION, THIS SECTION DESCRIBES
THE VALUES AND BENEFITS OF OPEN SPACE
LAND IN THE COMMUNITY.

Section 2 : Physical Setting

Historical Background

The historic development pattern of the City, resulting from Mexican land grants and the topography of the area, has played a significant role in its existing distribution of open space. During the 1840's, Laguna Beach was excluded from the two surrounding land grants (the Irvine and Moulton ranches). The exclusion of this area resulted in Laguna Beach being subject to homestead claims once California became a state. Had this not occurred, it is highly unlikely that Laguna Beach would have developed in its present location or pattern. It is more likely the City would have been retained under one ownership and may have remained undeveloped as did the surrounding land grants.

Between 1875 and 1879, the Laguna Beach area was first surveyed by individual surveyors under contract to the Department of the Interior. Once these survey maps were filed, it allowed homestead claims within this area. By the 1880's, homestead claims had been filed on most of the coastal plain. These first homesteads were large and dispersed, providing an abundance of open space.

During the late 1880's and early 1900's, Laguna Beach became increasingly popular as a vacation and resort town. As a result, landowners began to capitalize on this popularity by subdividing their property. The first subdivision in Laguna Beach occurred in 1887, followed by a number of subdivisions establishing a pattern of smaller lots intended for vacation homes. These subdivisions occurred on the flatter portions of the City.

In 1911, subdivision in the City shifted from the coastal plain to the hilltops of Arch Beach Heights. This subdivision of Arch Beach Heights created nearly 1900 (25' x 100') lots which were plotted on a map without any apparent consideration for the steep topography of the area. In fact, street access to these lots was nonexistent at the time of the subdivisions. Access was not developed until the 1930's, when some street improvements were constructed. The Diamond/Crestview area, situated adjacent to Arch Beach Heights on less steep terrain, was subdivided in 1925, creating approximately 200 lots. Similar to Arch Beach Heights, the Diamond/Crestview subdivision (Tract 764) was plotted without regard for the topography and without access except for paper streets. Many of the problems (including

substandard lots, access constraints and environmental hazards) still exist today, resulting in a number of these lots remaining unbuildable due to conflicts with current development standards.

These two areas were the only major hillside subdivisions for quite some time. By the mid-1920's most of the coastal plain was subdivided. During the 30 years following these initial subdivisions, most development activity in Laguna Beach involved primarily infilling on the coastal plain and lower hills, leaving those areas less suitable for development vacant as open space.

Development and subdivision activity during the late 1950's and mid-1960's was primarily concentrated on the City's ridgelines, hilltops and hillsides, leaving less accessible hillsides, ridgelines and canyon bottoms vacant. Today these lands account for a large majority of the City's open space.

Existing Geographic Conditions: The City of Laguna Beach is situated in a truly unusual setting uncommon elsewhere in the County of Orange. This is due largely to both the location of the City as a seaside community and its physical elements, which are characterized by numerous open space resources. There are three primary physiographic characteristics which make up the existing pattern of open space within Laguna Beach.

- A. Pacific Coastline: The City's shoreline extends for approximately 4.2 linear miles. Coastline improvements include 29 public beach accessways and 14.7 acres of oceanfront parks and viewing platforms, provided and maintained by the City of Laguna Beach
- B. Coastal Plain: The coastal plain lies between the ocean bluff tops and the base of the San Joaquin Hills. Existing open space on the coastal plain consists of City parks and a few isolated areas of undeveloped land, such as the Bluebird Canyon natural drainage course. Although major open space resources are limited, an abundance of trees, shrubs and vegetation within the coastal plain provides a natural, park-like setting in many areas.

This limited amount of open space is due primarily to the absence of legislation (during the City's early development stage) that would have enabled the City to require park land dedication. Prior to the enactment of State legislation (Quimby Act) in 1973, the dedication of park land was left to the discretion of the subdivider or developer. Additionally, due to the relatively flat topography of the coastal plain, this area was the most suitable for building, with very little land spared for open space.

Limitations in the amount of open space are offset somewhat by the close proximity and accessibility of beaches, the curvilinear streets interspersed with natural drainage courses and densely vegetated yards, and the surrounding background of vacant hillsides.

C. Hillsides and Canyons: The majority of the City's natural open space is contained within the undeveloped hillsides of Laguna Beach, refer to map entitled "Inventory of Open Space and Vacant Land." Most of this open space (1,065 acres) is divided into large privately owned parcels, many of which may have future subdivision potential and may not always be left as open space. However, a significant portion of the City's vacant hillsides may not be developable, due to steep slopes and geological constraints. Sixty-five to 75 percent of the City's vacant hillsides consists of slopes of 45 percent or greater.

The City's open space resources possess important aesthetic and recreational value, and provide vital wildlife and vegetative habitats. In addition, the undeveloped hillsides contribute greatly to the community identity that distinguishes Laguna Beach from surrounding communities.

D. Regional Open Space Lands. In addition to open space lands within the City, the surrounding hillsides -- situated outside the City limits, but within the City's planning area -- are a major part of the community's natural open space, (see Map 3-1). This area, whose boundary generally corresponds with the Laguna Greenbelt, exhibits a wide variety of topographic, geologic, biotic and aesthetic features of regional and even state significance.

Formal efforts to preserve the surrounding hillsides and canyons as open space began in May 1968 with the formation of the Laguna Greenbelt Committee. The purpose of this committee was to "advocate the preservation of greenbelt open space in advance of sprawling urbanization." As an outgrowth of this committee, a variety of individuals and groups were established to bring their environmental concerns to the attention of local and regional policymakers. As a result of these efforts, the Laguna Greenbelt has been identified in the Orange County Open Space Element as a priority area and has been recognized in the City's 1974 Open Space Element as an area which should be retained for its natural beauty.

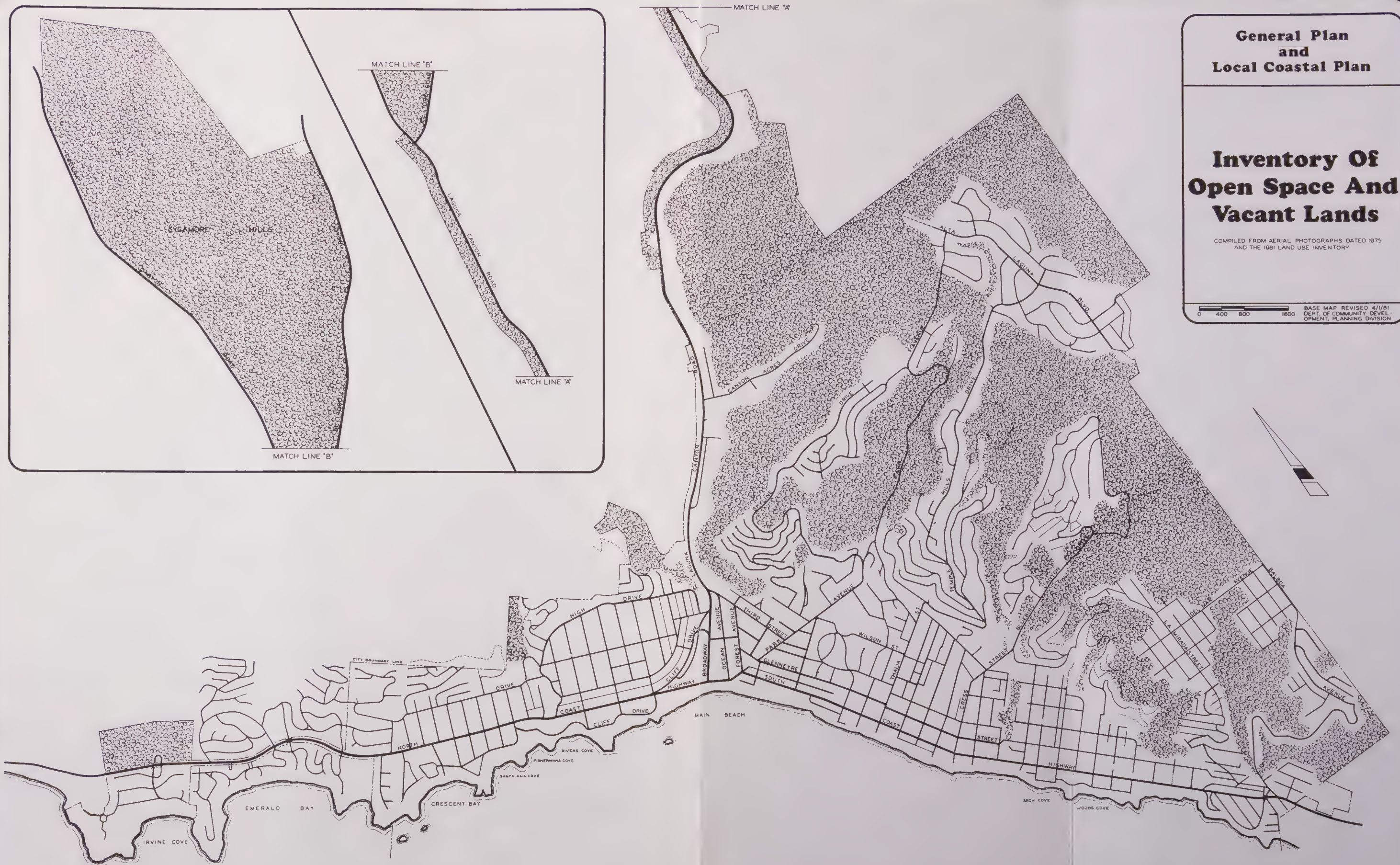
The majority of the Laguna Greenbelt is under the jurisdiction of Orange County. Most of this natural open space is undeveloped; however, increasing growth pressures within the County may result in development of portions of this area. A number of projects with varying degrees of intensity have already been approved or are currently proposed for portions of this open space. Areas to the west and east of the City limits, however, have been set aside as permanent open space

**General Plan
and
Local Coastal Plan**

**Inventory Of
Open Space And
Vacant Lands**

COMPILED FROM AERIAL PHOTOGRAPHS DATED 1975
AND THE 1981 LAND USE INVENTORY

0 400 800 1600
BASE MAP REVISED 4/1/81
DEPT. OF COMMUNITY DEVELOPMENT, PLANNING DIVISION



City of Laguna Beach

MAP 3-1

Proposed Regional Open Space Lands And Trails

 OPEN SPACE LANDS
 TRAILS

SYCAMORE HILLS
OPEN SPACE

LAGUNA LAUREL
OPEN SPACE

IRVINE COAST
DEDICATION AREA

CRYSTAL COVE
STATE PARK

ALISO GREENBELT
DEDICATION AREA

LAGUNA BEACH

 1" = 4000'

(Crystal Cove State Park and Aliso Creek Greenbelt). The City's role in further preservation of the surrounding hillsides as open space is limited, due to the absence of direct jurisdictional control. Nevertheless, this area is a significant element of the community's open space system, for which the City monitors planning activities and discourages residential and commercial development.

Functions of Open Space.

The preservation of open space is necessary for a variety of reasons. Some of these encompass physical characteristics such as natural ecosystems and passive agricultural uses, while others involve less tangible factors such as aesthetic and educational benefits. Presented below is a discussion of some of the principal open space values of importance in Laguna Beach, and their role in open space planning.

A. Aesthetic Function

The range of aesthetic values is very broad. However, it is possible to identify some basic characteristics of open space that serve important aesthetic functions.

- Scenic beauty, such as landscapes that exhibit lush or colorful vegetation or other features that are visually attractive on the basis of their appearance alone.
- Uniqueness, such as landscapes that are found in limited abundance within the surrounding region or which exhibit unusual physical features.
- Stature, such as relief features that are particularly bold, imposing, prominent or distinctive.
- Vastness of scale, such as homogenous landscapes that extend across a distant or sweeping horizon.
- Contrast or symmetry, such as landscapes with component features whose highly diversified or consistently similar patterns create an interesting and compelling visual effect.

Since most people have an active appreciation of these values, aesthetics is a widely cited and commonly accepted reason for preserving open space. The actual task of planning for open space on the basis of aesthetics can often be difficult, however, since aesthetic appreciation is largely subjective. As a result, it is usually necessary to develop parameters of significant aesthetic value.

B. Ecological Function

All natural open space areas support a specific range of vegetative and wildlife species that continuously adapt to prevailing climatic and environmental conditions. In turn, the various life forms within a habitat area develop interdependencies, primarily related to their food supply. A well-balanced relationship between plants and animals in a fixed environment creates an ecosystem or sensitive biological community.

When an ecosystem is left undisturbed, it usually exists in a state of equilibrium, with all of the component vegetative and wildlife species able to sustain themselves in adequate numbers. When an open space area is converted to urban uses, the entire ecosystem which occupied that area can be lost. If only a portion of a particular habitat area is developed, or if the area is only partially altered, it is still possible for substantial and irreparable damage to be caused to some or all segments of the ecosystem. Comprehensive management, therefore, is critical to the stability and propagation of biotic resources.

Since field biologists are capable of evaluating the quality and sensitivity of ecosystems with a relatively high degree of accuracy, it is possible to develop specific programs for preserving open space on the basis of its ecological value. Such a program normally entails providing protection to those open space areas which, if developed or altered, would result in significant losses of rare or sensitive ecological habitats and ecosystems, or important species of vegetation and wildlife.

C. Educational Function

The earth and its resources are the subjects of numerous fields of academic study and research, including biology, geology, geomorphology, archaeology and paleontology. Certain open space areas may possess particular resources or features that are important to each of these fields. Examples of such areas would include a rare or complex ecosystem habitat, an area where unusual geologic formations have been exposed, or an area where important deposits of fossils and artifacts are known to exist. By preserving such significant areas as open space, they can continue to be available for important educational study and research.

With respect to open space planning, the educational values of open space are not often considered as a primary reason for preservation except in very significant cases. In many instances, however, open space areas of educational value may also possess other values; (i.e., ecological, aesthetic).

D. Protective Function

Nature can pose threats to both life and property in the form of such hazards as floods, earthquakes, landslides, wildfires and severe ocean tides. In attempting to protect against losses from such events, the strategic preservation of open space can be of significant value. A few basic variations of open space management can be used according to the nature of the hazard in question.

In the case of hazards such as floods and landslides, use and development of such hazard areas can be restricted. The level of restriction may vary, based upon a hazardous event's likelihood of occurrence and/or its potential severity. Where very high hazards exist, such as in an area of highly unstable geologic conditions, all types of development may be prohibited.

In the case of hazards such as wildfires where very large areas are exposed to high but not necessarily imminent risks, open space can be used for protection by utilizing buffer strips around the periphery of developed areas. This function alone may be the basis for preservation of open space.

E. Recreational Function

Almost every type of outdoor recreational activity requires some form of open space for its conduct. Consequently, the recreational value of open space is widely recognized. Over recent decades, the amount of available leisure time has generally increased while the spectrum of popular outdoor recreational activities has also expanded. This has further affected the need for more and different types of recreational open space.

Natural open spaces primarily accommodate activities that fall under the broad category of "outdoor activities," including camping, hiking, hunting, fishing, water sports, and nature appreciation. In most instances, planning for natural open space recreation is a matter of preserving areas that provide settings suited to these activities.

In the case of improved open space such as urban parks, recreation is usually one, if not the most important, of its intended functions. Parks normally provide settings and facilities for both active uses such as athletics and passive activities such as picnicing and view appreciation. Planning for parks can be based on characteristics related to a site, such as a particularly scenic setting. More often, however, park sites are determined on the basis of where the greatest range of uses and facilities can be accommodated and where the greatest need and best accessibility exist.

ISSUE STATEMENTS & POLICIES

THIS SECTION FOCUSES ON FOURTEEN SEPARATE SUBJECTS OF DIRECT CONCERN TO OPEN SPACE AND CONSERVATION PLANNING IN LAGUNA BEACH. THESE SUBJECTS ARE PRESENTED IN THE FORM OF ISSUE STATEMENTS AND ARE FOLLOWED BY A SERIES OF POLICIES DESIGNED TO GUIDE THE CITY'S DECISIONS WITH RESPECT TO THESE ISSUES. THESE POLICIES ARE OF CENTRAL IMPORTANCE BECAUSE, IN ADDITION TO REPRESENTING THE GOALS AND PRIORITIES OF THE COMMUNITY, THEY FUNCTION AS REGULATIONS BY WHICH DEVELOPMENT PROJECTS WILL BE MEASURED.

Section 3: Issue Statements & Policies

TOPIC 1: COASTAL LAND FEATURES

Background: The distinctive and diversified physical composition of Laguna's coastline is the product of natural phenomena working over centuries of time. These forces generally include:

1. Uplifting movements (folding and faulting) that have created an emergent coastline with elevated relief along most portions of the coast.
2. Natural weathering and erosional forces, most prominent being the ocean surf, which have reduced and sculpted the built-up landforms.
3. The presence of a wide variety of bedrock compositions, ranging from soft siltstone to resistant volcanic rocks, which have allowed the erosional forces to considerably reduce some portions of the coastline, while other portions continue to stand boldly.

These factors have created numerous physical features that vary in prominence, height, scale and ruggedness, and cause the outline of Laguna's coastline to range from smooth and elliptical to jagged and irregular.

Issue Identification and Analysis: Laguna's coastline is composed of various types of land formations that warrant special consideration and protection because of their unique physical appearance. These include landforms such as cliffs, headlands, bluffs and caves; and rock formations, such as wave-cut benches, coves, arches, blow-holes and islands and other offshore outcroppings. Several portions of Laguna's coastline are composed of relatively weak bedrock materials that are susceptible to accelerated erosional processes. Because of their weak properties, these areas have already been eroded and now take the form of low, cascading bluffs and cliffs. Not only are these areas particularly susceptible to deterioration from nature, but man-made improvements can also jeopardize their stability.

The many sandy beaches of Laguna's coast are a unique sensitive natural resource. The creation of beaches is a complicated process involving the actions of surf and ocean currents. The process is also a cyclical one, with high tides in the winter

washing sands out to sea and then replenishing them during the milder conditions of summer. Under normal circumstances, these seasonal losses and gains balance out over the course of the seasons. Extraordinary tidal occurrences, however, can cause some natural imbalance in the replenishment process.

The replenishment process is also susceptible to the interference of man. Such activities as dredging and the construction of levees and breakwaters can deplete supplies of sand or disturb the north-south drifting pattern of the sand along the prevailing direction of the ocean currents (littoral drift). Due to the sensitivity of the coastal environment and dynamics of ocean waves, tides and currents, the design and construction of seawalls or other coastal features must consider state-of-the-art technology, designed by qualified professionals.

In attempting to provide for the continued healthy replenishment of the City's beach sand, activities which pose a potential threat must be regulated along the City's own coastline and the activities upshore from the City must also be monitored.

The qualities of the coastline that make it valuable as open space also serve to significantly increase the demand for its acquisition and development. The fact that the coastline is a physically limited resource further impacts this demand, creating competitive interests between open space and development.

Planning for coastal open space should attempt to achieve a balance between the need for restricted and undisturbed open space areas, the need to make open space areas available for public use, and the interests of private property owners. This requires identification of those particular areas or features that are needed for an open space use and the type and degree of regulation that is practical and feasible. Whether an open space area is under private or public ownership particularly influences the direction that can be pursued, since the level of discretionary control over private property is limited. This factor is particularly pertinent in Laguna Beach, since the large majority of the land adjacent to the City's coastline is under private ownership.

POLICIES

- 1-A Monitor other jurisdictions' activities which may affect the natural sand replenishment process in Laguna Beach.
- 1-B Require the use of drought-resistant plantings and natural vegetation to reduce irrigation practices.
- 1-C Require the installation of rain gutters and other water transport devices as a condition of approval on blufftop development, in order to convey water to the street (away from the bluff side). When this is impractical, all water shall be piped to the base of the bluff.

- 1-D Develop measures to control and limit irrigation of coastal bluff properties in a consistent manner and institute procedures to adopt these measures by ordinance.
- 1-E Prohibit the construction of buildings and other man-made structures on the sandy portion of the beach unless necessary for public health and safety.
- 1-F Shoreline protective devices which may adversely affect the sand supply or cause an adverse impact to shoreline processes shall not be approved unless the situation is one in which there is clear evidence that the existing structure(s) are in danger from erosion and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply and unless all feasible alternatives have been explored.
- 1-G Establish an ordinance prohibiting climbing on coastal bluffs in non-designated areas and/or initiate an ecological signing program depicting the significance of bluff environments and potential damage to them inflicted by human activity.
- 1-H Require design review for all blufftop development.
- 1-I The City shall impose a 25-foot minimum setback or a distance ascertained by stringline measurements for all blufftop development, notwithstanding the fact that ecological and environmental constraints may require an additional setback.

TOPIC 2: TIDE POOLS AND MARINE HABITATS

Background: The shoreline of Laguna Beach is characterized by sandy shores, protected coves and exposed headlands that collectively form the Coastal Intertidal Zone (the area between the high and low water marks). The Intertidal Zone is characterized by tide pools that trap water when the tide goes out, creating self-contained pools. Rich in oxygen and providing an abundant food supply, these tide pools support many species of seaweeds, barnacles, anemones, worms, snails, sea slugs, periwinkles, starfish and mussels. While some species, such as the blind goby, spend their entire lives in tide pools, other creatures depend on the tide pools during some part of their life cycle, either for spawning during their juvenile years, or in the later stages of their lives.

Issue Identification and Analysis:

- A. **Environmental Sensitivity:** The Intertidal Zone of the City's shoreline is a complex and diversified habitat, relying on the natural ecological balance for its life and propagation. The sensitivity of these habitats and their

importance to the overall coastal ecology must not be underestimated. At the same time, however, the Intertidal Zone and tide pool environments are particularly vulnerable to abuse and degradation by human activity.

Tourism: Over the years, increasing numbers of tourists, laden with buckets, jars and plastic bags, has curiously collected plant and animal life from the shoreline, gradually depleting supplies (outpacing natural replenishment) and disrupting their sensitive ecological balance. The fact that much of the shoreline in Laguna Beach is accessible to the public has resulted in the diminishment of many intertidal marine species such as starfish, snails, limpets and abalone.

Educational Training: Public and private schools for many years have instructed their students through various forms of conservation education, sometimes including field trips along the City's coastline. Because marine resources and tide pools are relatively few in number, inadvertent damage or destruction of these fragile habitats frequently occurs where rocks are overturned or marine specimens temporarily removed for observation. The intentional exploitation or destruction of marine life is of course irresponsible. But even the legitimate use of collecting for scientific and educational purposes can seriously deplete marine species in tide pools, if collecting is not carefully regulated and performed in a conscientious manner.

- B. Government Regulations: The Intertidal Zone along the shoreline of Laguna Beach has experienced a visible depreciation of plant and animal life as interest and use in public beaches continues to grow. In an effort to preserve this valuable natural resource, the City initiated action to create an environment whereby the Intertidal Zone would be protected and allowed to regain a natural ecological balance. In cooperation with the State Department of Fish and Game, a Marine Preserve was created by the State in 1968 for a portion of the City's shoreline particularly rich in tidepool life. The Marine Preserve or Marine Life Refuge, is protected by State law and is intended to preserve tidepool life. The boundaries and major access points to the refuge areas are posted with signs for identification and protection of the pools. Although protected by the California Fish and Game Code, certain game fish, including crustaceans and mollusks, may be removed from a refuge area with a Sport Fishing license pursuant to California Sport Fishing Regulations.

In addition to the Marine Preserve, the State, in conjunction with the City, established an Ecological Reserve in 1974, creating, in essence, a marine sanctuary, or a

protected "aquarium". The Ecological Reserve, which is demarcated by buoys and shore markers, differs from the Marine Life Refuge in that public access to Reserves is restricted and marine life, plants, large fish, shells or rocks cannot be removed or disturbed except as authorized by Fish and Game Regulations (i.e., for scientific study or research purposes).

The diminishing natural habitat of intertidal life, which once flourished along the coast of Laguna Beach and Southern California should, over time, replenish due to the protection afforded by designated preserve areas. The keynote, however, to a successful program must include proper monitoring and enforcement, coupled with an effective education program emphasizing the value, sensitivity and complexity of intertidal environments.

POLICIES

- 2-A Encourage the expansion of the Marine Life Refuges and the designation of particularly unique or ecologically sensitive coastal areas as Ecological Reserves (such as seal and bird rocks), pursuant to the provisions of the State Department of Fish and Game.
- 2-B Initiate procedures to post signs at the boundaries of tide pools, marine life refuges and ecological reserves that clearly denote their ecological significance and the penalty for disturbing these natural environments.
- 2-C Promote educational programs aimed at heightening the awareness and appreciation of marine resources, utilizing the Marine Safety Department and enlisting support from volunteer groups.
- 2-D As part of the City's resource management program, include provisions for monitoring of tidepools to ensure a proper balance between public beach access and the preservation of marine resources.
- 2-E Solicit interest from university faculty and students with expertise in marine ecology to study and evaluate tidepools, including changes in their ecological characteristics.
- 2-F Develop a local enforcement program, pending funding availability, consisting of shoreline protection regulations and citation authority for Marine Safety personnel.
- 2-G Support non-profit organizations which provide care and rehabilitation of marine life.
- 2-H Support restoration of offshore kelp beds.

TOPIC 3: PUBLIC BEACHES AND SHORELINE ACCESS

Background: Laguna Beach is a major visitor destination, attracting nearly three million tourists annually. The popularity of the City imposes significant demand on the community's shoreline recreational facilities with summer beach attendance sometimes exceeding 30,000 people daily. The City has attempted to maximize shoreline access and accommodate the demands of recreationalists by providing abundant beach access opportunities. This accommodation, however, can produce adverse environmental effects in the community if not properly balanced and monitored. These effects may include damage or destruction of fragile coastal resources such as coastal bluffs, tide pools and marine life, increase in traffic congestion, inefficient circulation, increase in street parking demands, competition for street parking among various user groups, and overtaking of public services such as lifeguard and beach patrols. Maintenance of beach areas, restrooms and related support facilities may also tax the City's resources.

Laguna Beach currently provides numerous opportunities for direct physical access to the shoreline. It presently maintains 29 improved public beach accessways, providing recreational opportunities to nearly 47 acres of sandy beach spanning 4.3 lineal miles of coastline (Map 3-2 and Table 3-1 depicts the inventory of existing access points). In addition, the City supports several oceanfront parks and viewing platforms, totaling 14.7 acres. These facilities include Main Beach Park (2.64 acres); Heisler Park (11.02 acres); Crescent Bay Park (0.80 acres); Oak Street Viewpoint (0.02 acres); and Ruby Street and Thalia Street Viewpoints (0.11 acres). Main Beach Park, which is situated in the heart of the downtown area, is especially popular with residents and visitors alike. The park features an oceanfront boardwalk, landscaped lawns, benches and tables, basketball and volleyball courts, children's play equipment and restroom facilities.

With the exception of Irvine Cove and Rockledge, which are private residential communities located in the north and south reaches of the City respectively, public beach access is available along virtually the City's entire shoreline. The longest distance between access points is approximately 1,000 feet along the central bluffs. In the south end of Laguna Beach, vertical access is provided at every road end adjoining the beach, or approximately every 200-300 feet. Pedestrian access is also provided at each of the coves in north Laguna (except for Irvine Cove).

MAP 3-2

Public Beach Access Points

(Refer to Table 3-1)

Scale: 1 inch = 1 mile
 Date: 10/1/01
 By: [illegible]
 For: [illegible]

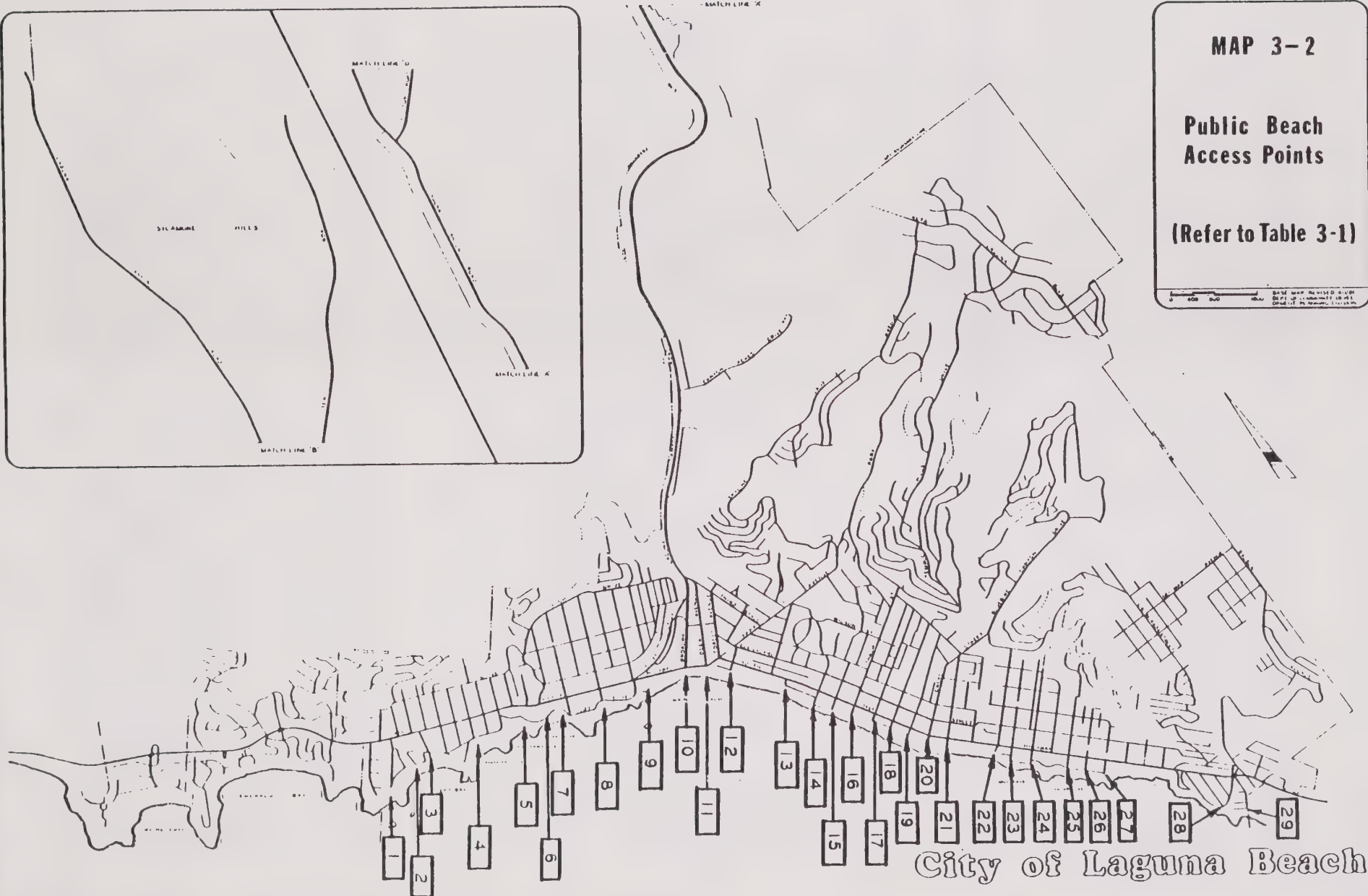


TABLE 3-1

EXISTING ACCESS INVENTORY

<u>BEACH</u>	<u>INDEX MAP NO.</u>	<u>ACCESS POINT</u>	<u>TYPE OF ACCESS</u>
Crescent Bay	1	Crescent Bay Point	View
	2	Circle Way	Stairs
	3	Barranco Street	Ramp
Shaw's Cove	4	Fairview Street	Stairs
Fisherman's Cove	5	Cliff Drive	Stairs
Diver's Cove	6	Cliff Drive	Stairs
Picnic Beach	7	Myrtle Street	Ramp
Rockpile	8	Jasmine Street	Stairs
Main Beach	9	Cliff Drive	Ramp
	10	Broadway	Boardwalk
	11	Ocean Avenue	Boardwalk
	12	Laguna Avenue	Boardwalk
Sleepy Hollow	13	Sleepy Hollow Lane	Stairs
Cleo	14	Cleo Street	Stairs
St. Ann's	15	St. Ann's Drive	Stairs
Thalia	16	Thalia Street	Stairs
Anita	17	Anita Street	Stairs
Oak Street	18	Oak Street	View and Stairs
Brooks	19	Brooks Street	Stairs
Cress	20	Cress Street	Stairs
Mountain Road	21	Mountain Road	Stairs
Bluebird	22	Bluebird Canyon Road	Ramp
Agate Street	23	Agate Street	Stairs
Pearl	24	Pearl Street	Stairs
Woods Cove	25	Diamond Street	Stairs
	26	Ruby Street	View
Moss Street	27	Moss Street	Stairs
Victoria	28	Victoria Drive	Stairs
	29	Dumond Drive	Ramp

Issue Identification and Analysis: Pressures for the utilization of the City's beaches will continue to grow as the population of Laguna Beach and South Orange County increases. Unrestricted use and access to these beaches may, over time, impose demands beyond their threshold capacities, resulting in significant environmental effects. The realization of new access opportunities, however, may relieve some of these impending pressures by dispersing the demand to other areas. For example, future regional park facilities such as Crystal Cove State Park and Aliso Creek County Park, located immediately north and south of the City respectively, could offset some of the beach recreational demand in Laguna Beach.

As part of the Local Coastal Program, four areas currently without access in the City were examined for the possibility of establishing beach access:

Rockledge: Rockledge is a small residential area situated immediately adjacent to South Coast Highway at the south end of the City between Moss Point and Victoria Beach. The neighborhood is composed of approximately 24 oceanfront homes; two properties remain vacant. A small natural cove is situated at the base of the bluffs. Public access to this cove is currently unavailable due to existing development patterns and physical barriers such as steep bluffs and rocky headlands to the north and south. The restricted access and undisturbed nature of the Cove has produced a marine environment particularly rich in plant and animal life, including tide pools abundant with ocean specimens.

Although public access may be physically possible because the bluffs are reportedly in stable condition (F. Beach Leighton Geologic Constraint and Land Use Capability Study, 1975), the area is without essential support facilities such as restrooms and lifeguard services and suitable public parking opportunities. Public access to Rockledge may also compromise the ecological integrity of the area unless properly policed and managed.

Central Bluffs: Located on the south side of South Coast Highway between Laguna Avenue and Sleepy Hollow Lane, the Central Bluffs occupies some 2.5 acres of oceanfront property situated within walking distance of the City's central business district. The Central Bluffs, which rise nearly vertically some 50 feet above sea level, is comprised of 20 lots under seven separate ownerships. This area supports a mixture of development, including older single family residences and small commercial/professional uses. Four properties, comprising approximately 29,000 square feet in area, remain vacant. A new time share project was approved by the City in 1982 which featured 25 time share units, 3,698 square feet of commercial space, 475 square feet of administrative space and 5,900 square feet of

exterior pedestrian walkways. This project is situated on the southeastern edge of the Central Bluffs, adjacent to the intersection of South Coast Highway and Legion Street. In 1984 the City Council adopted an ordinance which now prohibits time share uses in the City. The City's General Plan and Zoning designate the Central Bluffs for tourist/commercial development. The City, however, is pursuing a comprehensive specific plan for the Central Bluffs, pursuant to the policies in the Land Use Element. This plan will eventually establish new land use and development standards.

Public beach access is available in the vicinity of the Central Bluffs with accessways found at the terminus of Laguna Avenue and Sleepy Hollow Lane. There is a distance of approximately 1,000 feet between these access points, which enables lateral access to the Central Bluffs from points north and south. Main Beach Park, which provides restroom facilities and lifeguard services, is situated a short distance north of the Bluffs, within easy walking distance.

Several well-traveled paths lead down the face of the Central Bluffs to the shoreline, suggesting that this location is a popular route to the beach. Unauthorized use of these trails, however, has presented a serious health and safety hazard and noticeable erosion of the bluff face. Because the bluffs may contain unstable geologic formations and slide potential, continued climbing on the bluff face may aggravate this situation. Improved public access at this location, however, may retard the rate of bluff erosion by restricting access to a stairway constructed over the bluff face.

Crescent Bay: Crescent Bay is a picturesque cove located in north Laguna Beach between Shaw's Cove and Emerald Bay. The beach is accessible to the public by an existing stairway and ramp located toward the south end of the bay. The beach supports public restroom facilities and City lifeguard services.

Existing topographic constraints and geologic conditions have effectively prohibited beach access at the north end of Crescent Bay. According to a geologic report prepared in 1976 for the Crescent Bay Park Improvement Project, "No structures of any type should be planned on the steep wave cut cliffs or the bedrock beach at the base of the cliffs". In addition to the precipitous nature of the bluffs, the shoreline in north Crescent Bay is composed of rocks with minimal beach area. Due to this circumstance and in recognition of the prominent location of the bluffs, the City constructed Crescent Bay Park in 1980 on the bluffs

overlooking Crescent Bay. The park features landscaping, improved walking trails with hand rails, and a viewing platform which affords a commanding view of the bay, the Pacific coastline and Seal Rock, a small offshore island haven for sea lions and birds.

Irvine Cove: Irvine Cove is a small private residential community located between Emerald Bay and El Morro Cove at the north end of Laguna Beach. The neighborhood is subdivided into 60 lots, the majority of which support single-family residences.

The Cove contains approximately four acres of sandy beach which during high tides is sometimes divided into two areas, separated by a large rock outcropping. Direct beach access is provided by an existing stairway used by residents of the neighborhood. There are two restroom facilities at the shoreline and five parking spaces located at the point of access to the beach.

Access to the private community is controlled by locked electric gates operated with either a card key or from a guard house. These gates effectively limit beach access to residents of the neighborhood and their guests. Lateral access opportunities to the shoreline of Irvine Cove are similarly limited, due to the presence of rocky headlands and steep slopes, heavy vegetation and private residences.

Although public beach access would expose a larger audience to the coves, such an action would likely result in significant adverse consequences to the natural environment, including sensitive tide pools and marine life, bluff and hillside terrain and vegetation.

POLICIES

- 3-A Retain and improve existing public beach accessways in the City, and protect and enhance the public rights to use the dry sand beaches of the City.
- 3-B Maintain current vertical access status at rockledge because adequate vertical access exists nearby. Recordation of an irrevocable offer to dedicate a lateral access easement, consistent with Policy 3-G, shall be required as a condition of new development.

3-C Maintain current access status at Crescent Bay because there are adequate existing vertical access opportunities to the Bay. Recordation of an irrevocable offer to dedicate a lateral access easement, consistent with Policy 3-G, shall be required as a condition of new development.

- 3-D a. Public pedestrian and bicycle access to, and use of the Irvine Cove beach for passive recreational uses shall be required as a condition of any new development by or for, or on any property owned or controlled by or for the Irvine Cove Association, its collective members, or its successor in interest. Approval of any such project shall be conditioned upon the recordation of an irrevocable offer to dedicate an easement for public access and passive recreational uses to and along the shore. The offer of easement shall be in favor of the City of Laguna Beach or other public agency or private association acceptable to the Coastal Commission, shall be recorded prior to transmittal of the permit, shall run with the land, and shall be irrevocable for 21 years from recordation. Nothing in the policies or in the offer or easements described therein shall be interpreted as affecting the right of the public to use any portion of the beach subject to the public trust. The form and content of the offer shall be approved by the Executive Director of the Coastal Commission and shall provide, at a minimum, the following:
1. Vertical Access: A minimum 10-foot wide easement along the roads and common areas to the extent necessary to assure public access from Pacific Coast Highway through the Irvine Cove Community Beach;
 2. Lateral Access: An easement for public access and passive recreational use on and along the beach at Irvine Cove. The area provided for public use shall extend from a line along the toe of the bluff, providing a 10-foot privacy buffer around any existing structure, seaward to the mean high tide line. The offer shall also provide that in the event the area seaward of the easement's upland boundary is impassable, for example at extreme high tides, the public shall have the right to pass and repass landward of that boundary;
 3. Improvement and Maintenance: The right of the accepting agency or association to install and maintain signs, restrooms, and a bicycle rack consistent with the access management program for Irvine Cove. The right of vehicular use of the roads and other common areas by the accepting agency or association to the extent necessary for maintenance, rescue, and security operations.

- b. An access management program for Irvine Cove shall be prepared as a part of the implementation Actions of the Local Coastal Program. The purpose of the access management program shall be to provide maximum public access consistent with the Coastal Act of 1976, taking into account private property rights and site-specific constraints. The access management program shall include the following:
 1. Establishment of hours of public access which shall include, at minimum, the hours between sunrise and sunset.
 2. The provision of bicycle racks for a minimum of 25 bicycles at the beach terminus of the vertical accessway.
 3. The provision of signing at the entrance to the Irvine Cove in order to make the public aware of the existence of the accessway and its hours of operation.
 4. Provisions for management of the public areas and facilities by the accepting agency or association. Maintenance standards shall be consistent, at a minimum, with those in effect at the Cove at the time of acceptance.

The access management program for Irvine Cove may also include the following elements: (1) The accepting agency may charge a reasonable entrance or use fee, comparable to those charged by State-and County-operated day use facilities, in order to defray costs for maintenance; (2) The Community Association may be allowed, subject to permit approval, to erect small posts, bollards or similar structures at reasonable intervals in order to delineate the public recreation areas. Small signs describing the uplands as private property may also be allowed, subject to permit approval. No fences may be erected on the beach.

- 3-E Require new lateral access at the Central Bluffs. Approval of all new development between Laguna Avenue and Sleepy Hollow Lane shall be conditioned upon the recordation of an irrevocable option to dedicate a lateral access easement a minimum of 25 feet in width measured landward from the edge of the blufftop in order to provide a continuous blufftop

accessway above the Central Bluffs for the public. Subject to design review approval, tables, chairs and similar nonpermanent amenities for public use can be allowed in this 25-foot easement, provided that the accessway is kept open and allows unrestricted pedestrian movement at all times.

- 3-F A vertical access easement between Laguna Avenue and Laguna Surf Timeshare shall be required as a condition for any new development. At such time as a vertical access easement is opened in this area, any other recorded offers in this area shall be relinquished, and no more shall be required.
- 3-G Lateral public access along the shoreline shall be assured by requiring as a condition of any new development, including approval for new building construction, additions greater than 10% to building, variances or subdivisions on property between the first public road and the sea, the recordation of an irrevocable offer to dedicate an easement for public access and recreational use on and along the beach. The easement shall extend from the mean high tide line to a specific landward reference point. Depending upon site characteristics, that reference point shall be either (a) the seaward extend of the building, (b) the top of the vertical seawall, (c) the intersection of sand and revetment, or (d) the toe of the bluff.

TOPIC 4: WATER QUALITY AND CONSERVATION

Background: The preservation and conservation of water resources in Laguna Beach are significant local and regional concerns. Water is vital to human survival, and plays a significant role in the recreational, residential, commercial and industrial activities of the community. Water resources in Laguna Beach consist of both inland water bodies and offshore ocean resources.

Issue Identification and Analysis:

Laguna Lakes: The Laguna Lakes, located in the vicinity of Laguna Canyon Road north of Sycamore Hills, are locally and regionally a highly significant and sensitive resource and biological community. The Lakes are three fresh water bodies, the largest of which is approximately 12 acres in size. Approximately 30% (four acres) of this lake is situated within the Laguna Beach City limits and is owned by the City. The rest of the lake and the two other lakes are within the unincorporated area of Orange County. The three lakes, nourished by surface and subsurface runoff are comprised of three biotic communities: fresh water

aquatic, fresh water marsh, and riparian habitat. The Lakes support a variety of biotic species including microscopic plants; aquatic and semi-aquatic plants such as reeds and willow thickets; migrating waterfowl and birds, frogs, salamanders and a variety of mammals such as coyote, gray fox and mule deer.

The lakes are of local and regional significance. They are the only naturally occurring lakes within Orange County and are an important habitat for many waterfowl and birds that are not widely found within the County. The Lakes support significant wildlife habitats in the freshwater marsh and riparian communities; and they possess much regionally uncommon aquatic and marsh-related vegetation.

Ocean Resources: The Pacific Ocean is one of the most significant physical features of Laguna Beach, creating 4.2 linear miles of coastline and nearly 47 acres of sandy beach. In addition to its aesthetic and recreational value, the ocean and tidal zone of Laguna Beach also supports a wide variety of plant and animal life. This coastal ecology is particularly vulnerable to pollutants, which typically include chemical, gas or oil spills and leaks that originate on both land and sea. The quality of the ocean water is also susceptible to degradation from runoff sedimentation and debris from major drainage basins such as Aliso Creek and Laguna Canyon, and from sewer outfalls. A major degradation of the coastal waters has the potential of significantly disrupting the ecological balance of the area and adversely affecting tourism.

Oil spills are a particularly serious threat because of their potential for widespread damage. The Federal, State and County governments all have oil spill contingency plans which are activated during an oil or toxic chemical spill. Similarly, in 1979 the City of Laguna Beach prepared a document entitled, "Oil Spill Contingency Planning in Orange County", using financial assistance from the U.S. Office of Coastal Zone Management. The plan evaluates the oil spill contingency planning efforts on a regional scale, recognizing the important role of local governments in this endeavor. All of these plans are similar, in that they are designed to initiate and expedite the process of clean-up and containment of oil and toxic chemical spills occurring offshore. These plans establish lead agencies responsible for the clean-up and administrative support and in some cases technical advice as needed during a major oil spill.

The Orange County Plan, however, differs from the State and National plans in that both these plans recognize the Environmental Protection Agency or Coast Guard as the lead agency for the spill response, while the County recognizes the local fire department of the affected jurisdiction as the lead agency.

The City's role in an oil or chemical spill emergency involves discovery of the spill, taking immediate action to limit damage and protect the public; notifying the appropriate State and Federal agencies, and providing support for clean-up operations by private industry.

Water Conservation: Until recent years, water has been considered an abundant and inexhaustible natural resource, with shortages usually attributed to engineering problems. However, recent water shortages occurring throughout the nation (especially in water-rich regions such as the northeast) have changed the public's attitudes towards water. These recent droughts have helped communities to realize that, like other natural resources, water is a finite commodity. Communities can no longer depend entirely upon importing water to meet increased demand, but instead need to conserve water, thus reducing the demand. Several jurisdictions have addressed this issue by establishing policies to encourage water conservation. Other methods include reducing water demand in new residential development by reorienting outdoor space and its landscaping, decreasing lot or lawn size and encouraging drought-tolerant landscaping through subdivision and landscape ordinances. In addition, residential water consumption can be reduced through economic and other incentives, building codes that mandate water saving devices, and public education on water conservation opportunities.

In Laguna Beach, the Laguna Beach County Water District (LBCWD) conducts a voluntary water conservation program by encouraging people not to waste water and by promoting the planting of native plants which use less water. This program is administered as an information program by printing water conservation messages on water bills and by providing literature on this subject at the LBCWD office.

POLICIES

- 4-A Protect fresh water lakes, streams, waterways and riparian habitats, and preserve the borders and banks of lakes and streams in their natural state.
- 4-B Encourage the planting of drought tolerant and native vegetation as a means of conserving water.
- 4-C Encourage conservation of water resources for existing and new development.
- 4-D Cooperate with the County of Orange to ensure that the existing natural hydrological process of Laguna Lakes is maintained as a means to preserve them.

- 4-E Oppose any physical alteration to the Laguna Lakes shoreline or adjacent habitat areas, that may result in adverse effects to the lakes or would depreciate the visual quality of the lakes.
- 4-F Coordinate with the County of Orange to maintain and enhance the ecological quality of the Laguna Lakes.
- 4-G Encourage periodic reevaluation of the Oil Spill Contingency Plans affecting the City.
- 4-H Oppose activities which degrade the quality of offshore waters.

TOPIC 5: PARKS

Background: Perhaps the most commonly used method of conserving and/or preserving open space in an urban setting is the use of land for park purposes. Numerous parkland studies have been undertaken to determine the cost and benefits of urban parks, with the consensus being that parks are desirable and beneficial to the well-being of urban inhabitants. There is less agreement, however, on the appropriate size, type and total acreage of city parkland.

The City of Laguna Beach currently provides approximately 99 acres of park and recreation land. Park sizes range from .02 acres to 11.02 acres (excluding sandy beaches) and park types vary from parks with no improvements to intensively improved parks. Together, City parks are divided into three general categories of use: regional (66.9 acres); neighborhood (7.3 acres); and mixed use (25 acres).

Regional parks have a service radius that extends beyond the City itself. Often, especially during the summer, the majority of visitors to these areas are not Laguna Beach residents. Neighborhood park and recreation areas, on the other hand, serve mainly local visitors, and generally attract users from within a one-quarter to one-half mile radius of the park. The school district also provides mixed use recreation areas that are shared with the City. The public use of these areas is limited to times when they are not being used by the district. Table 3-2 lists the Laguna Beach park and recreation areas according to the category into which they fall. The accompanying map (3-3) identifies their respective locations.

The City's Master Plan for Parks and Recreation Facilities was originally adopted by the City Council in 1980. This plan was subsequently reexamined by the City Council in January 1985, at which time, the park improvement priorities were rearranged to reflect new community goals and recreational benefits. More

TABLE 3-2

PARK AND RECREATIONAL FACILITIES

Regional Park and Recreation Areas*

1.	Irvine Bowl - Laguna Canyon Road	2.80 AC.
2.	Heisler Park - Cliff Drive	11.02 AC.
3.	Crescent Bay Park	.80 AC.
4.	Main Beach	2.64 AC.
5.	Hortense Miller Gardens	2.50 AC.
6.	Sandy beaches and public access points	<u>47.00 AC.</u>

Total 66.76 AC.

* A regional park and recreation site is proposed in Sycamore Hills.

Neighborhood Park and Recreation Areas

7.	Boat Canyon Park	3.05 AC.
8.	Bluebird Canyon	2.09 AC.
9.	Jahraus Park	1.10 AC.
10.	Top of the World	.35 AC.
11.	Nita Carmen	.14 AC.
12.	Oak Street	.02 AC.
13.	Ruby Street	.11 AC.
14.	Fernando Avenue	.02 AC.
15.	Bluebird Tennis Court	<u>.50 AC.</u>

Total 7.38 AC.

Mixed Use Recreation Areas

16.	Laguna Beach High School	9.00 AC.
17.	Top of the World Elementary School	5.00 AC.
18.	Thurston Intermediate School	<u>11.00 AC.</u>

Total 25.00 AC.

Overall Total* 99.14 AC.

Source: City of Laguna Beach

* The 99.14 acres provide 5.37 acres of parkland per 1,000 persons, based on the 1980 Census data. The City's standard for park dedication is five acres per 1,000 persons.

— MATCH LINE —



BASE MAP REVISED 4/1/81
DEPT OF COMMUNITY DEVELOPMENT
PLANNING DIVISION

6.29 100 100 100 100

recently in 1986, the Master Plan of Parks and Recreation Facilities was officially integrated as a component of the City's General Plan. This action ensures that the Master Plan is compatible with other planning objectives in the General Plan; ensures consistency between the Master Plan and new development proposals; and, enhances the City's position to qualify for various grant monies for park and recreational improvements.

A Summary of the Park and Recreational Facilities is presented below; the Master Plan is composed of eight priorities for new park facilities.

Priority 1: Moulton Meadows Park This is a neighborhood park facility in Arch Beach heights consisting of ten acres.

Priority 2: Community Park at Top of the World This park is proposed in the vicinity of Alta Laguna Boulevard on property currently owned by the Laguna Beach Unified School District. The proposed size of the park is between four to six acres.

Priority 3: Community Swimming Pool This pool is intended to serve the dual needs of the school district and residents of the City. For this reason, the Laguna Beach Unified School District and City Council are mutually involved in this project.

Priority 4: Minipark/View Site Proposed locations for these small park facilities include Fernando Street, Pacific Avenue and Lots A, B, and C of Tract 11054, near Alta Laguna Boulevard.

Priority 5: Community Park at Irvine Bowl The proposed park is situated on land above the Festival of Arts, under the ownership of the City and the Irvine Company. Existing concept plans propose extensive recreational facilities including a tennis complex, softball field, picnic area, tot lot, etc.

Priority 6: Beachside Muniparks These small neighborhood parks would be similar to existing facilities at Oak Street and Thalia Street. Proposed locations may include Brooks, Cleo, Anita, Cress and Mountain.

Priority 7: Hiking Trails This plan involves the development of a citywide trail network utilizing open space easements and existing right-of-way and may include connection with trails planned in adjacent County lands.

Priority 8: Miniparks in the Downtown Area This proposal envisions minipark sites at the Central Bluffs and Downtown area.

The City's park lands are augmented by large regional parks in close proximity to the City. Within the immediate vicinity of the City of Laguna Beach, 9,717 acres are proposed by the State and County as park, recreation and open space lands. These areas are depicted on Map 3-1. Their facilities will provide various recreational opportunities, including picnicking, hiking, camping, and bicycle and horseback riding. Crystal Cove/Morro Canyon State Park, northwest of the City, will include 2,791 oceanfront and canyon acres. The remaining 2,650 acres between the state park and the Laguna Beach city boundary is proposed as dedication land to be managed by the County of Orange and kept as permanent open space. The 600 acre area to the north of the City has been designated by the County as the Laguna/Laurel Canyon Regional Park. This park will provide a 600+-acre link between the open spaces to the west and east. East and northeast of the City 3,616 acres are proposed as recreation/open space in the County's Aliso Creek Planning Unit. All of these areas combined generally follow the boundary of what is commonly referred to as the Laguna Greenbelt.

Issue Identification and Analysis A major obstacle to the provision of more park and recreation facilities in Laguna Beach is the scarcity of land appropriate for park development. Much of the terrain in Laguna Beach consists of steep hillsides and narrow canyon watercourses, and of the remaining relatively flat land most has been developed. Due to this scarcity, developable land is very expensive and the City often cannot afford the acquisition cost of new parklands.

An important consideration in providing park/recreation land is on-going maintenance responsibility. The City of Laguna Beach has budgeted \$896,304 in fiscal year 1983-84 for the maintenance of park and beach land. With the rising cost of labor and machinery, maintenance cost can be reasonably predicted to rise above this figure in the future. These factors clearly illustrate that the cost of providing park/recreation areas does not stop with the acquisition and development of the land.

Given the problems stated above, funding programs must use imagination in seeking all possible sources of revenues. Federal and state urban grants, state and local park bonds, park in lieu funds, athletic program expansion funds; and capital improvement, development and open space funds are all possible funding mechanisms. Park in lieu funds currently provide the majority of money for park and recreation needs in Laguna Beach. Under this program, land developers are required to dedicate a predetermined amount of park/recreation land or provide money payment in lieu of the land. The payment is then deposited into a fund for the acquisition of new park land and/or for the improvement of existing park facilities. Park in lieu fees are collected according to five separate districts in the City, and all monies collected within a given district must be expended in only that district.

This procedure enables the City to balance the supply of recreation facilities in accordance with neighborhood growth and demand. Increased flexibility and specificity is needed, however, in order to address priorities in the plan.

POLICIES

- 5-A Evaluate the disposition of existing park in lieu fees and develop a more flexible and specific program for the expenditure of these funds.
- 5-B Support the recreational use and development of surrounding open space lands, where environmentally feasible, to relieve demand for parklands within the City. Encourage preservation of Laguna Greenbelt in a natural state, with recreational access limited to passive activities such as nature trails and wildlife observation areas.
- 5-C Pursue federal, state and county funding for parks.
- 5-D Investigate use of water district land for neighborhood recreation use.
- 5-E Evaluate City-owned land for public parks.
- 5-F Encourage the placement of art forms in public places, other than the installation of permanent art forms at Main Beach Park.

TOPIC 6: TRAILS

Background: Open space lands support many unofficial hiking and walking trails established over the years by foot traffic of local residents. These trails provide recreational opportunities that are typically unstructured and function with a minimum amount of human disturbance to the surrounding area. Additionally, trails permit access to the City's scenic resources and provide opportunities for self-guided nature studies.

Although the precise location of these trails is undocumented, most of them are located within the community's nearly 1,100 acres of vacant hillside lands.

Issue Identification and Analysis: The City has long recognized the need to formally designate walking trails within the community. In recent years, interest has centered on establishing a network of trails throughout the City, possibly inter-connecting with proposed trails within Crystal Cove State Park, the Aliso Greenbelt, and other adjacent open space lands, (see Map 3-1).

This network of trails could be initiated by identifying and using easements and/or development rights that the City has secured from previously subdivided lands. The use of existing public rights-of-way may also complement this system.

Although the opportunity exists for a comprehensive trail system, a number of constraints must be overcome. Many of the existing trails traverse private property and arrangements to secure valid public access must be obtained. This may include acquisition of property or easements, or seeking offers of dedication for this purpose. Additional constraints include the initial cost for construction of the trails and associated facilities such as signs, directional markers and rest areas, and the cost of maintenance. Environmental constraints include the possible exposure of environmentally sensitive lands to human disturbance and the threat of fire resulting from careless hikers.

In 1987, the City Council approved a Master Plan of Hiking Trails as a component to this Element. The Master Plan is intended to establish the structure and framework for an officially recognized comprehensive trails system in the City. The Master Plan describes the opportunities and constraints that influence the location and pattern of trails, establishes objectives for trail development, graphically illustrates a trail system for the City and provides measures for implementation of the plan.

POLICIES

- 6-A Inventory existing walking and hiking trails on public and private property within the City, pending funding availability.
- 6-B Complete the mapping of a Master Plan of Hiking and Walking Trails with the potential to connect to adjacent regional trail systems, identifying trail location, trail type (self-guided nature trails, belt and loop trails), and an implementation program, including a prioritized improvement schedule.
- 6-C Pursue funding for the acquisition, development, operation and maintenance of a local trail system.
- 6-D Establish a program for citizen awareness of hiking and walking trails within the City.
- 6-E Utilize, where possible, the margins of the flood control channel for foot and bike trail linkages, utilizing screening from the roadway where appropriate.
- 6-F Require dedication of public trail easements through new development activity, if such trails appear on the proposed Master Plan of Hiking and Walking Trails.

- 6-G Discourage the abandonment of dedicated but unimproved street rights-of-ways, public easements, or other reservations secured by the City, unless such action is in the public interest. The City shall not abandon a street, right-of-way, easement, or other reservation if it adversely impacts public access to beaches and trails.

TOPIC 7: VISUAL RESOURCES

Background: The long-time popularity of Laguna Beach as an artists' colony and vacation resort, and its overall desirability as a place to live largely stem from the City's scenic physical setting. The scenic quality of the local landscape remains high today because significant portions of the hillsides and the coastline continue to function as natural open space.

The scenic value of the hillside and coastal areas is especially important, because they are so visible to residents and visitors alike. More than any other function of the City's open space, it is its scenic aspect that most greatly contributes to Laguna's unique community identity. Preservation of the City's natural open space on the basis of its scenic quality, therefore, is an issue of special importance to the community.

Hillside Visual Resources: Nearly 30% of the City consists of undeveloped hillside lands. These lands support a great diversity of visual resources, with prominent exposure from both public and private property. Generally, these features include: (1) unique topographic forms - vertically exposed rock faces, bluffs, headlands and noticeably steep slopes; (2) unique vegetative forms, including stands of oak, sycamore and eucalyptus trees, and riparian or canyon land plant communities; (3) natural watercourses and associated canyon bottoms; (4) special land features such as prominent ridgelines, escarpments and rock outcroppings; and (5) visual edges or boundaries consisting of contrasting features where rock outcroppings may meet with surrounding vegetation or man-made features such as roads and buildings.

Coastal Visual Resources: With few exceptions, such as Main Beach Park, the City's 4.2 miles of shoreline is characterized by prominent headlands, pocket beaches or coves, wave-cut cliffs, and associated sea arches, caves and blow-holes. These shoreline features are largely a product of erosional forces that have shaped and formed their particular characteristics over centuries of time. Some of these features are more susceptible to erosion than others by virtue of their geologic formation and exposure to erosional elements, which contribute to and enhance the natural appearance of the coast.

Issue Identification and Analysis: The scenic resources in Laguna's hillsides and along its coastline have long been the subject of competing and potentially conflicting activity between development and conservation interests. Continued pressure to develop private lands places a greater responsibility on the City to be cognizant of the community's visual resources and to preserve those features regarded to be of special significance or value.

There is currently a relatively set balance in the proportions of developed and natural hillside areas, both in and surrounding the City. New development and/or remodels should not be of a scale that would significantly diminish natural open space areas in a manner out of character with existing proportions. The scenic value of even large natural areas can be diminished when its visual continuity is disrupted by "islands" or "peninsulas" of manmade intrusions. The City should attempt, therefore, to preserve natural hillside open space in large segments that are visually continuous and physically undisturbed.

The types of features that add value to the scenic quality of the hillsides have been outlined earlier in this discussion. In particular, rock outcroppings lend special aesthetic enhancement to the City's hillsides and contribute to the rugged texture and relief that characterize the hillsides. For these reasons, the strategic protection of rock outcroppings is an essential component in maintaining the high scenic quality of the City's hillside landscapes. Even features of average value may have a high priority for preservation if they are part of a group of features or a larger open area, or if their elevation or orientation makes them highly visible. Similarly, areas that are of the highest visibility to the greatest number of people should receive special consideration.

In contrast to the hillside environment, the City's shoreline and coastal frontage lands are largely developed. There is still, however, pressure to expand development into existing open space lands, thereby potentially diminishing their scenic attractions. Many coastal land features are inherently protected from development because their location and topography generally discourages access. These include steep cliffs and rocky headlands, and offshore coastal rock formations. Conversely, however, some coastal land features are particularly susceptible to development because of the number of small parcels that exist along the shoreline and the competition between these parcels for exposure to ocean views. This produces a strong demand to situate new structures within a short distance of the bluff edge or sometimes over the bluff faces to provide beach access. This activity can result in damage to the physical integrity of the coastal bluffs.

Planning for coastal open space, therefore, should attempt to achieve a balance between the need for restricted and undisturbed open space areas, the need for open space areas available for public use, and the interests of private property owners.

Evaluation of development projects must address whether or not a particular area or type of feature is necessary or desirable for an open space use and, if so, what type and degree of regulation is practical and feasible. Whether an open space area is under private or public ownership particularly influences the direction that can be pursued, since the level of discretionary control over private property is limited. This factor is especially pertinent in Laguna Beach because the majority of coastal frontage property is under private ownership.

An important aspect of hillside and coastal land features is their visibility from public roadways. Many of the City's visual resources, such as ridgelines, rock outcroppings, shoreline and cliffs, are visible from the City's roads. Enjoyment of these features may be enhanced by identifying vantage points and providing view turnouts or platforms.

POLICIES

- 7-A Preserve to the maximum extent feasible the quality of public views from the hillsides and along the city's shoreline.
- 7-B Pursue funds to subsidize underground utility districts.
- 7-C Inventory and map positive and negative visual resources from Coast Highway and Laguna Canyon Road for use in reviewing development projects which might impact the viewshed of these designated scenic highways, pending funding availability.
- 7-D Promote development of scenic vista points (such as view platforms and view turnouts) in conjunction with approval of new subdivisions.
- 7-E As funding permits, analyze the visual quality of major streets.
- 7-F As a condition of approval for new building construction, require the dedication of open space easements, development rights, or the use of some similar instrument for the purpose of protecting unusually significant natural features.
- 7-G The Design Review process for an individual project shall include criteria for treatment of the urban edge between existing development and open space in areas designated "Hillside Management/Conservation" on the Land Use Plan Map. The criteria shall be developed to reflect topographic constraints and shall include at a minimum:

- a. Treatments to screen development, including the use of vegetation, variable setbacks and modified ridgelines or berms;
- b. Fuel modification techniques for new development which provide the following: Result in graduated fuel modification zones in which on the minimum amount of native vegetation is selectively thinned; prohibit grading or discing for fuel modification; confine fuel modification to the development side of the urban/ open space edge to the maximum extent; avoid fuel modification encroachment into environmentally sensitive areas; locate structures with respect to topographic conditions to incorporate setbacks, minimize fuel modification requirements and maximize hazards; and provide requirements for ongoing maintenance.
- c. Treatments for fuel modification and maintenance techniques for existing development consistent with standards in (b) above to the maximum extent feasible.

7-H For new development proposed on property adjacent to the Aliso Greenbelt, a site-specific view analysis shall be required. Said analysis shall identify appropriate measures to ultimately screen the development and shall be approved by the Design Review Board. Such measures may include but shall not necessarily be limited to: (a) Setback of structures, (b) landscape screening, (c) berms or "false ridges," (d) use of earthtone or color and materials which will serve to blend the structures with the natural landscape. If the analysis indicates that development cannot feasibly be screened by the measures above, such that the trails or the canyon bottoms of Wood and Aliso Canyons, then the City shall impose other conditions of development so as to protect the viewshed and integrity of the greenbelt. Such measures may include limitation on building height, bulk or footprint, lot line adjustment or other similar measures.

TOPIC 8: VEGETATION AND WILDLIFE RESOURCES

Background: Vegetation and wildlife within previously undeveloped areas are particularly vulnerable to human intrusion which disrupts or destroys native plant communities and wildlife corridors. Increased awareness of this vulnerability has made the protection of natural vegetation and wildlife habitats a major component of this element. There are nearly 1,100 acres of undeveloped land within the hillsides of Laguna Beach. These lands provide a variety of habitats for numerous plant and wildlife species. In order to determine the value and location of these habitats, the City Council in October 1982 commissioned a citywide biological resources inventory. This study entailed four principal tasks:

1. The identification and description of major community open space lands and watershed areas.
2. A comprehensive inventory of biological resources, including vegetative communities and associations and fauna species and habitats.
3. The identification of sensitive plant and animal species and associated habitats, including rare and endangered species.
4. The determination of levels of significance; (i.e., low value vs. high value).

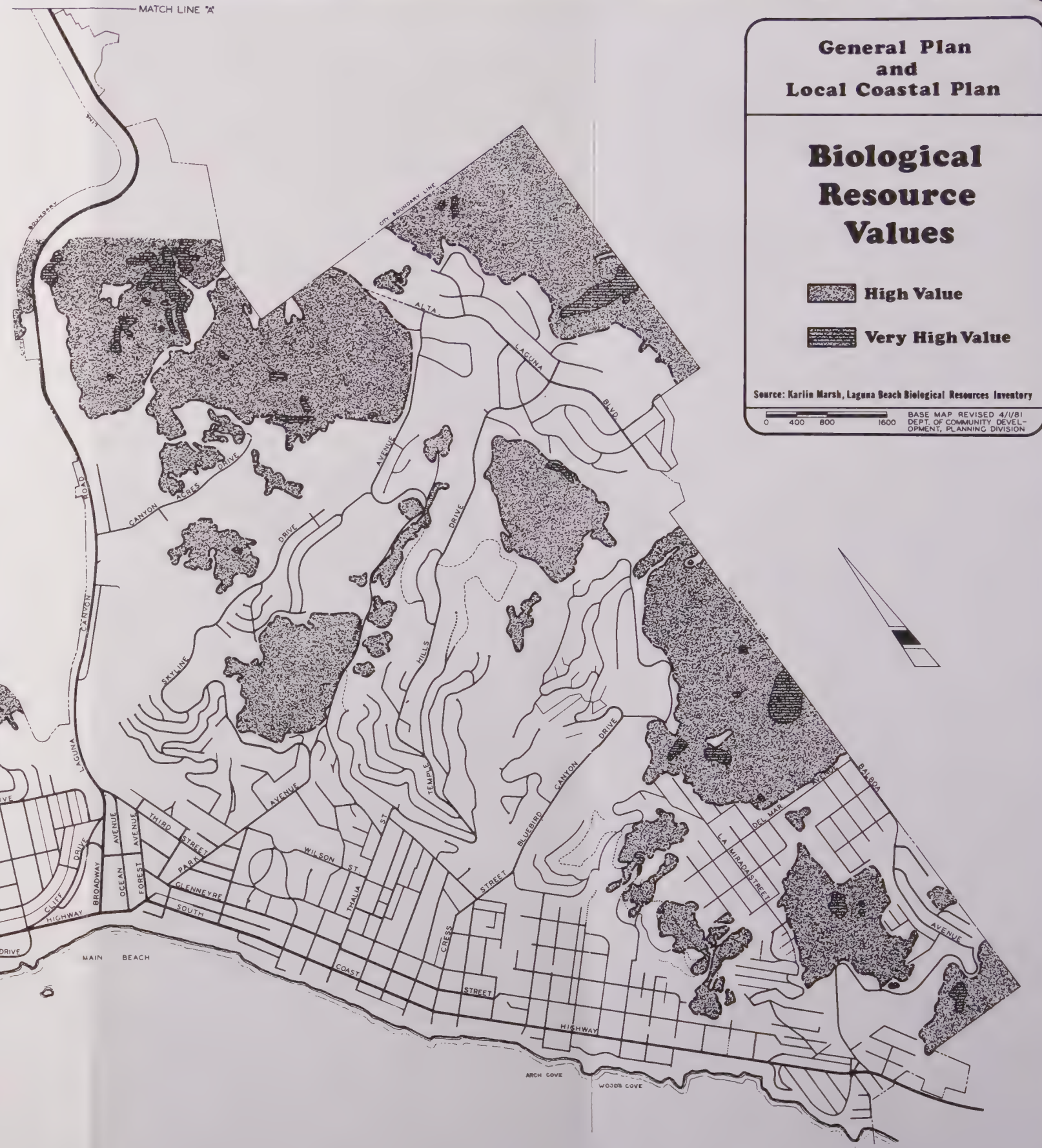
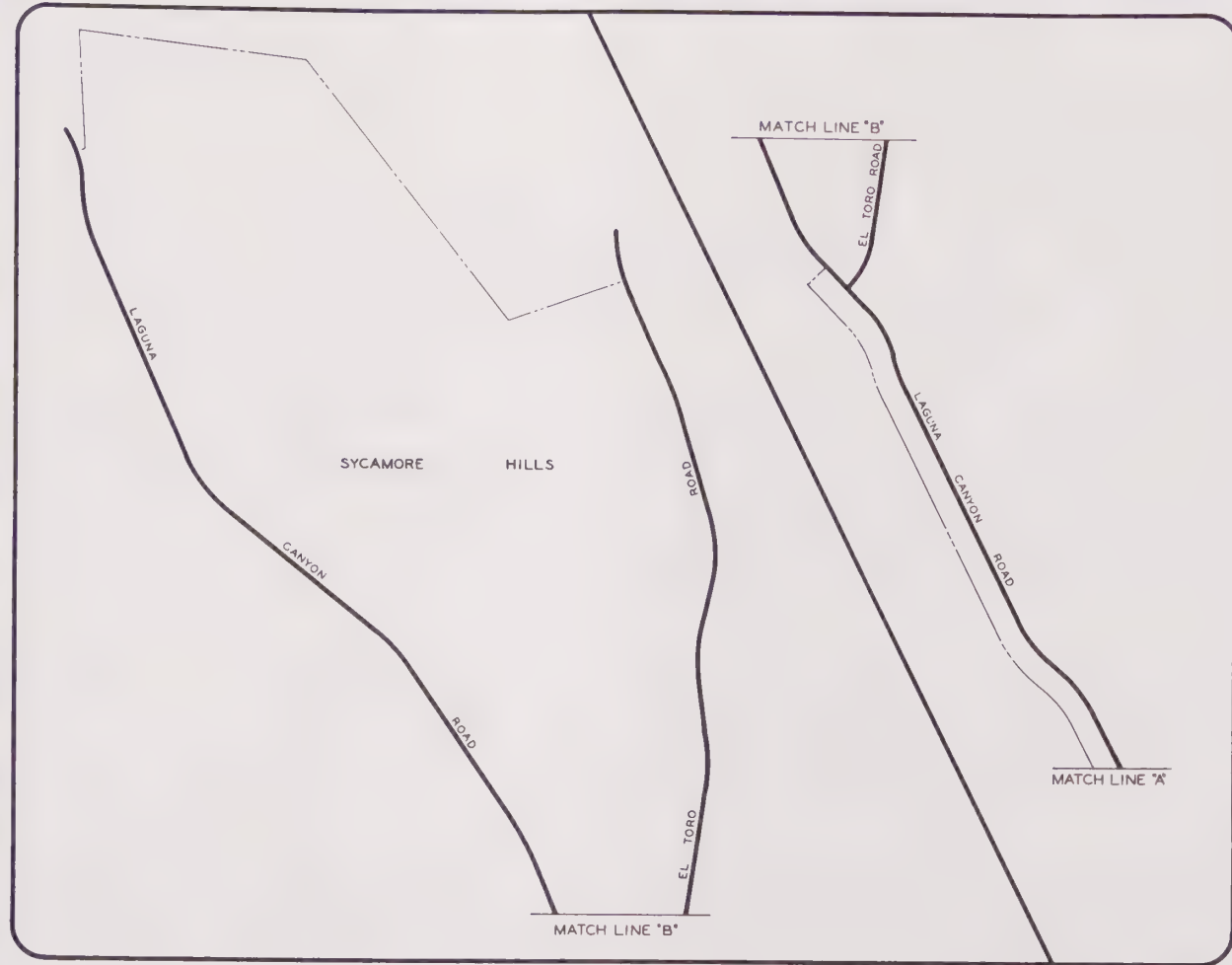
The inventory involved a comprehensive in-the-field inspection of the community's open space areas. As a result of the inventory, two maps were produced, a Biotic Communities Map and a Biological Value of Open Space Map. The former map identifies the location of 12 biotic communities and subcommunities within the City, which can be grouped into nine more general biotic categories. These include coastal sage scrub, chaparral, grasslands, southern oak woodland, riparian brushland, rock outcrops and barrens, maritime desert scrub, coastal strand, and urban forest. The characteristics of these habitats are shown in Table 3-3.

The Biological Value Map is based on the habitat integrity and extent, faunal use, and presence of endangered, rare or locally unique biota. In addition, this map establishes a value ranking system for habitats within the City, as summarized below.

Low Value Habitats: These habitats are typically disturbed, impacted sites, often dominated by grasses and domestic plants that have become established in natural areas, and are usually highly fragmented by, or are contiguous to, urban development. Although they may have value, they are isolated and not linked to other habitats. The sites are biologically simplified and are of low faunal carrying capacity. Low value habitats do not possess biological constraints to urban development, but may, if developed, be areas where spillover impact adversely affects contiguous higher value settings.



Moderate Value Habitats: These sites may contain either native vegetation, a specific community type, or ornamental species in a setting providing horizontal and vertical structural diversity. The sites are usually, however, limited in area and are contiguous to urban development. Thus, their faunal carrying capacity, and often, native floral species diversity, is lower than that of the "high value" habitats described below.

High Value Habitats: These are extensive areas dominated by indigenous plant communities which possess good species diversity. They are often, but not always, linked to extensive open space areas, within or outside of the City, by



**General Plan
and
Local Coastal Plan**

**Biological
Resource
Values**

-  **High Value**
-  **Very High Value**

Source: Karlin Marsh, Laguna Beach Biological Resources Inventory
 0 400 800 1600
 BASE MAP REVISED 4/1/81
 DEPT. OF COMMUNITY DEVELOPMENT, PLANNING DIVISION

City of Laguna Beach

TABLE 3-3

HABITAT CHARACTERISTICS
OF LAGUNA BEACH*

<u>HABITAT</u>	<u>TYPICAL LOCATION</u>	<u>VEGETATION</u>	<u>WILDLIFE</u>
Coastal Sage Scrub	Well-drained slopes and hills	Sages, tall peren- nial grasses, de- ciduous and ever- green woody shrubs, herbs & low grasses	Lizards, birds, small mammals, fox, coyote and mule deer.
Chaparral	North-facing slopes of canyons	Woody evergreen shrubs, understory of lower growing shrubs, ferns & grasses	Snakes, lizards salamanders, small mammals and birds.
Grasslands	Small islands adjacent to costal sage scrub	Native grasses, wildflowers.	Lizards, mice, rabbits, skunks squirrels, weasels, mule deer and small birds.
Southern Oak Woodland	Major canyon bottoms	Coastal live oak, Engelmann hybrid oak, shrubs, ferns, herbs and grasses	Salamanders, birds, small mammals and mule deer.
Riparian	Adjacent to streams and natural drainage courses	Brushy thicket, native, naturalized and escaped horti- cultural shrubs, forbs and grasses	Frogs, sala- manders, birds, fox, bobcat, weasel and skunk.
	Higher wildlands	Chaparral brush & thickets of giant rye grass.	
	Deep canyons	Oak woodland	
Rock Outcrops Barrens	Upper slopes, ridgeline cap- rock areas	Edge shrubs, tall forbs, moss, ferns, low growing herbs, succulents, and grasses	Lizards, turkey vultures, swal- lows, ravens and mule deer.

*Excludes Sycamore Hills. Data for
this area is on file in the Dept. of
Community Development, City of Laguna
Beach.

TABLE 3-3 (CONT.)

<u>HABITAT</u>	<u>TYPICAL LOCATION</u>	<u>VEGETATION</u>	<u>WILDLIFE</u>
Maritime Desert Scrub	Transition between coastal sage scrub and desert flora. Coastal hills, sea bluffs, tributary canyon slopes.	Coastal cholla, coastal prickly pear and bush rue	Lizards and many species of birds.
Coastal Strand	Undisturbed dune-land		
Urban Forest	Open space within developed portions of the City. Along stream channels. At interface of urban and wildlands. Undeveloped slope and watershed	Horticultural trees and shrubs	Salamanders, finches, sparrows, doves, mockingbirds, jays and crows, spotted skunks, striped skunks, raccoons and opossum.

Source: Biological Resources Inventory
City of Laguna Beach
October 1982

TABLE 3-4

ENDANGERED, RARE OR DISTRIBUTIONALLY
RESTRICTED SPECIES IN THE UNITED STATES*

<u>SPECIES</u>	<u>LOCATION</u>
California Adder's Tongue Fern <u>Ophioglossum lusitanicum Californicum</u>	Rancho Laguna watershed
Crown beard <u>Verbesina dissita</u>	South city watershed
Western dichondra <u>Dichondra occidentalis</u>	Temple Hills
Many-stemmed dudleya <u>Dudleya multicaulis</u>	Rancho Laguna watershed Big Bend Laguna Canyon South city watershed Upper Dripping Cave and Porta Rock Canyon
Laguna Beach dudleya ¹ <u>Dudleya stolonifera</u>	Canyon Acres Big Bend
Fish's milkwort <u>Polygala cornuta fishiae</u>	Canyon Acres Agate Canyon Diamond Canyon Crestview/Juanita Ridge
Orange County Turkish Rugging <u>Chorizanthe staticoides ssp.</u> <u>Chrysacantha</u>	Canyon Acres Big Bend Park Canyon Rimrock Canyon Rancho Laguna watershed South city watershed
Bush rue <u>Cneoridium dumosum</u>	Irvine Bowl Canyon Acres Park Canyon Rancho Laguna watershed Agate Canyon Diamond Canyon Crestview Canyon South city watershed Crestview/Juanita Ridge

*Excludes Sycamore Hills. Data for this area is on file in the Dept. of Community Development, City of Laguna Beach.

¹ Considered the most sensitive plant species in the City

TABLE 3-4 (CONT.)

<u>Species</u>	<u>Location</u>
Coast horned lizard <u>Phrynosoma coronatum</u> <u>blainville</u>	Sycamore Hills Arch Beach Heights Temple Hills area
Orange-throated whiptail <u>Cnemidophorus hyperythrus</u>	Laguna Canyon Sycamore Hills
Golden eagle <u>Aquila chrysallos</u>	Nest site - Irvine Ranch
Peregrine falcon <u>Falco peregrinus</u>	Migrating through area

Source: Biological Resources Inventory
City of Laguna Beach
October 1982

traversable open space corridors. Their faunal carrying capacity is good to excellent; many areas are utilized as bedding and foraging sites by mule deer, or possess large resident populations of birds or native small mammals.

Also included in this category are locales of maritime desert scrub and ceanothus chaparral, whether extensive or fragmented, because of the locally unique character of these communities.

Very High Value Habitats: These include the habitats of endangered, rare or locally unique native plant species. Also included are areas of southern oak woodland and natural (not irrigation augmented) springs and seeps. Among the very high value habitats inventoried are areas of significant rock outcrop exposures, because of the assemblages of sensitive plant species that often occupy such settings.

Issue Identification and Analysis: Protection or preservation of sensitive wildlife and vegetative habitats is a primary function of the community's open space system. The recent biological assessment of the City's vacant hillsides provides perhaps the most significant data resource for the City's Open Space and Conservation Element and for achievement of the preservation and protection of these areas. Prior to the completion of this assessment, a comprehensive evaluation of the community's open space lands had never been compiled. This comprehensive inventory of the community's wildlife and vegetative resources enables the City to identify those areas which may be environmentally significant or sensitive, based upon the quality, diversity and uniqueness of a species or habitat.

The Biological Values Map in particular is an important resource map for open space preservation because it identifies and ranks open space habitats within the City. Of the four different values attributed to the City's open space habitats, "high value" and "very high value" habitats are the most sensitive. The "high value" habitats are dominated by a diversity of indigenous plant communities and wildlife dispersion corridors and are usually linked with open space areas outside the City. The "very high value" rank, however, represents the most significant and sensitive open space in Laguna Beach, areas that are likely to experience the most impact from urban development. Rare or endangered plant species included in this category are listed in Table 3-4.

Designation of "very high value" habitats alerts the City and property owner to the possible environmental sensitivity of the site. Due to the scale of the map, however, a more detailed environmental assessment may be required on a site specific basis for properties which contain or are adjacent to these habitats. This evaluation will be included in the development review process, and will outline the precise extent of the environmentally sensitive area and evaluate the environmental effects of development on adjacent vegetative and wildlife habitats.

The benefits resulting from the preservation and protection of the "very high value" habitats within Laguna Beach has implications reaching beyond the physical boundaries of the City. Preservation of these areas will result in the long-term enhancement of rare and endangered vegetation within the region and allow for wildlife dispersion corridors, along with bedding and foraging areas for wildlife, within and adjacent to the City.

POLICIES

- 8-A Preserve the canyon wilderness throughout the city for its multiple benefits to the community, protecting critical areas adjacent to canyon wilderness, particularly stream beds whose loss would destroy valuable resources.
- 8-B Prohibit vehicular use in open space areas, unless it is required for public health and safety, and monitor these areas to ensure enforcement of this policy.
- 8-C Identify and maintain wildlife habitat areas in their natural state as necessary for the preservation of species.
- 8-D Protect rangeland for deer population in the City; pursue such protection in areas adjacent to, but outside the City.
- 8-E Protect the remaining stands of native Coastal Live Oak (*Quercus Agrifolia*) and Western Sycamore (*Platanus Racemosa*) located in upper Laguna and El Toro Canyons, and in Top of the World Park as a unique and irreplaceable resource.
- 8-F Require detailed biological assessments for all subdivisions and fuel modification proposals located within areas designated as high or very high value on the Biological Values Map.
- 8-G When subdivision or fuel modification proposals are situated in areas designated as "high value habitats" on the Biological Values Map and where these are confirmed by subsequent on-site assessment, require that these habitats be preserved to the greatest extent possible.
- 8-H When subdivision or fuel modification proposals are situated in areas designated as "very high value habitats" on the Biological Values Map and where these are confirmed by subsequent on-site assessment, require that these habitats be preserved and, when appropriate, that mitigation measures be enacted for immediately adjacent areas.
- 8-I Environmentally Sensitive Areas (ESA's) as defined in Section 30107.5 of the California Coastal Act shall be identified and mapped on a Coastal ESA Map. The following areas shall be designated as Environmentally Sensitive Areas: Those areas shown on the Biological Resource Values Map in the Open Space/Conservation Element as "Very High"

habitat value, and streams on the Major Watersheds and Drainage Courses Map which are also streams as identified on the USGS 7.5 Minute Quadrangle Series and any other areas which contain environmentally sensitive habitat resources as identified through an on-site biological assessment process, including areas of "High" and "Moderate" habitat value on the Biological Resources Values Map and areas which meet the definition of ESA's in Section 30107.5 of the Coastal Act, including streams, riparian habitats, and areas of open coastal waters, including tidepools, areas of special biological significance, habitats of rare or endangered species, near-shore reefs and rocky intertidal areas and kelp beds.

8-J Detailed biological assessments shall be required for all new development proposals located within areas designated as Environmentally Sensitive Areas on the Coastal ESA Map. To protect these resources, the following shall be required:

1. No new development proposals shall be located in areas designated as "Environmentally Sensitive Areas" on the Coastal ESA Map except for uses dependent upon such resources.
2. When new development proposals are situated in areas adjacent to areas designated as "Environmentally Sensitive Areas" on the Coastal ESA Map and where these are confirmed by subsequent on-site assessment, require that development be designed and sited to prevent impacts which would significantly degrade such areas.
3. Where development is proposed on an existing subdivided lot which is otherwise developable (i.e., able to be served by utilities and access, and on slopes able to accommodate development consistent with City provisions on slope/density, grading, hazards, subdivisions and road access), and is consistent with all other policies of this Land Use Plan except for its location entirely within an identified ESA as confirmed by a site-specific assessment, the following shall apply:
 - (a) Resource Management uses including estuaries, nature centers and other similar scientific or recreational uses are permitted subject to a Conditional Use Permit to assure that uses are sited and designed to prevent degradation of the resource value; or alternatively,
 - (b) Transfer of a density bonus to another property in the vicinity able to accommodate increased density consistent with the policies of the Land Use Plan

concurrent with the recordation of an open space easement or other similar instrument over the habitat area of the parcel;

- (c) Existing dwellings shall be designated as nonconforming uses but shall be allowed to be rebuilt or repaired if damaged or destroyed by natural disaster provided however, that the floor area, height and bulk of the structure not exceed that of the destroyed structure by more than 10 percent.
- (d) No new parcels shall be created which are entirely within a coastal ESA or which do not contain a site where development can occur consistent with the ESA policies of this Plan.

TOPIC 9: WATERSHEDS AND WATERCOURSES

Background: A watershed is an area that collects rainfall, and is generally defined as separating two or more drainage systems. The rainfall captured within a watershed flows from the highest boundary of the drainage area downhill where it eventually collects into clearly defined watercourses and channels. To qualify as a watercourse, the feature must include a streambed, banks, a channel and periodic although not necessarily contiguous flows. A watercourse is thus one distinctly different component in the overall watershed, and serves to convey runoff that falls within the watershed. Laguna Beach supports 12 major watersheds and many smaller more localized drainage areas. The characteristics of these watersheds are described in Table 3-5. In addition, the attached map entitled "Major Watersheds and Drainage Courses" denotes their physical boundaries. Larger regional watershed areas are also delineated in Map 3-4.

Through the process of erosion, the water flowing from the upper boundaries of the watershed to its point of confluence with another stream or to its point of disposal in the ocean creates landforms. If this down-cutting action is intense, a channel may create a canyon, the sides of which are composed of cliffs or series of cliffs rising from its bed. Gentler erosive action within the watershed may produce less dramatic topographic relief, and instead form a valley in the form of a hollow or low-lying land bounded by hills or mountain ranges.

In Laguna Beach, such conditions have combined to form a striking geomorphic locale that provides dramatic changes in relief in the form of ridgelines, canyons and valleys that are quite steep in relationship to each other. This can produce a sometimes volatile runoff condition. The combination of a relatively shallow soil profile, rocky exposures and steep slopes that accelerate the flow of water, reduce the amount of infiltration and ponding, and can produce high rates of runoff.

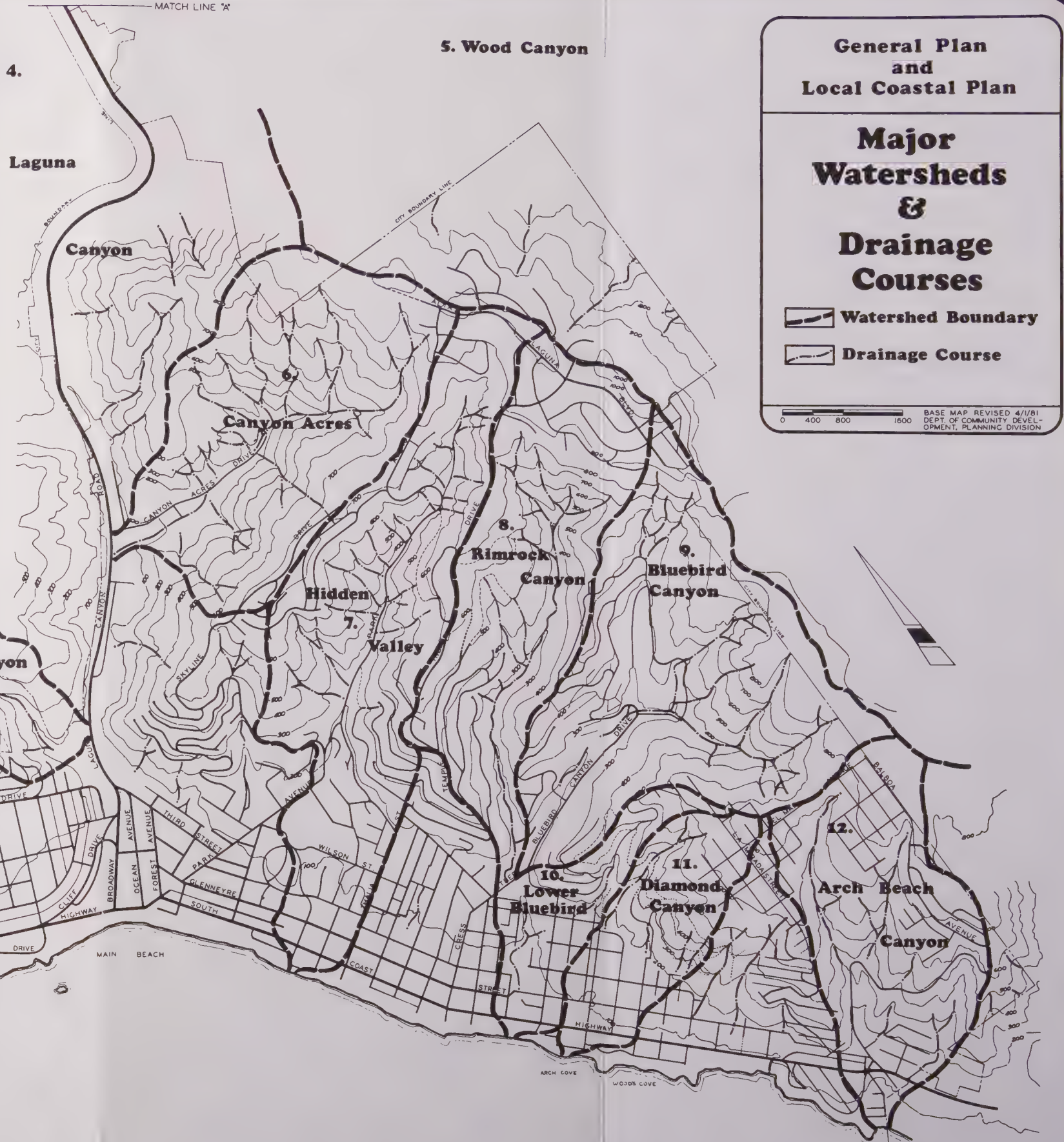
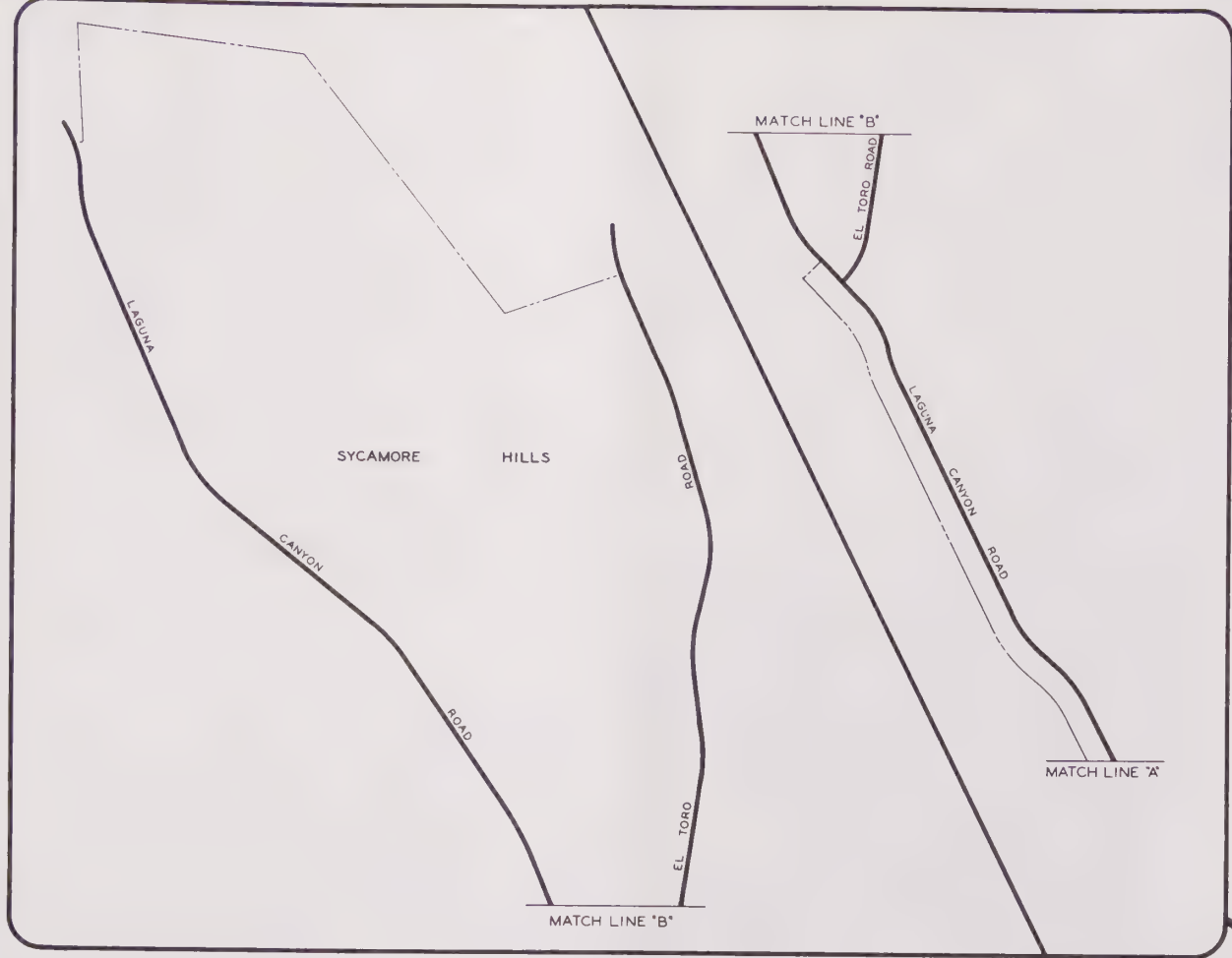
TABLE 3-5
CHARACTERISTICS OF MAJOR WATERSHEDS

<u>Watershed</u>	<u>Area</u> In Acres	<u>Vert. Relief</u> In Feet	<u>Length</u> In Feet	<u>Gradient</u> Av. in %	<u>Flow</u> C.F.S.*
1. Irvine Cove	107	600	4,000	15.0	131
2. Boat Canyon	328	780	10,000	7.8	343
3. Irvine Bowl Cyn	220	600	7,500	8.0	224
4. Laguna Canyon	5760	445	33,750	1.3	3198
5. Wood Canyon	2752	400	20,000	2.0	1066
6. Canyon Acres	295	930	6,200	15.0	442
7. Hidden Valley Cyn.	330	940	9,000	10.4	468
8. Rimrock Canyon	242	730	6,400	11.0	329
9. Bluebird Canyon	314	692	5,800	11.9	444
10. Lower Bluebird	642**	610	10,800	5.7	754
11. Diamond Canyon	95	610	3,800	16.0	169
12. Arch Beach Cyn.	223	810	5,200	15.6	286

* Cubic Feet per Second, 10-Yr. Storm

** Includes 8 & 9

Source: City of Laguna Beach
Master Drainage Plan
July 1982



**General Plan
and
Local Coastal Plan**

**Major
Watersheds
&
Drainage
Courses**

Watershed Boundary

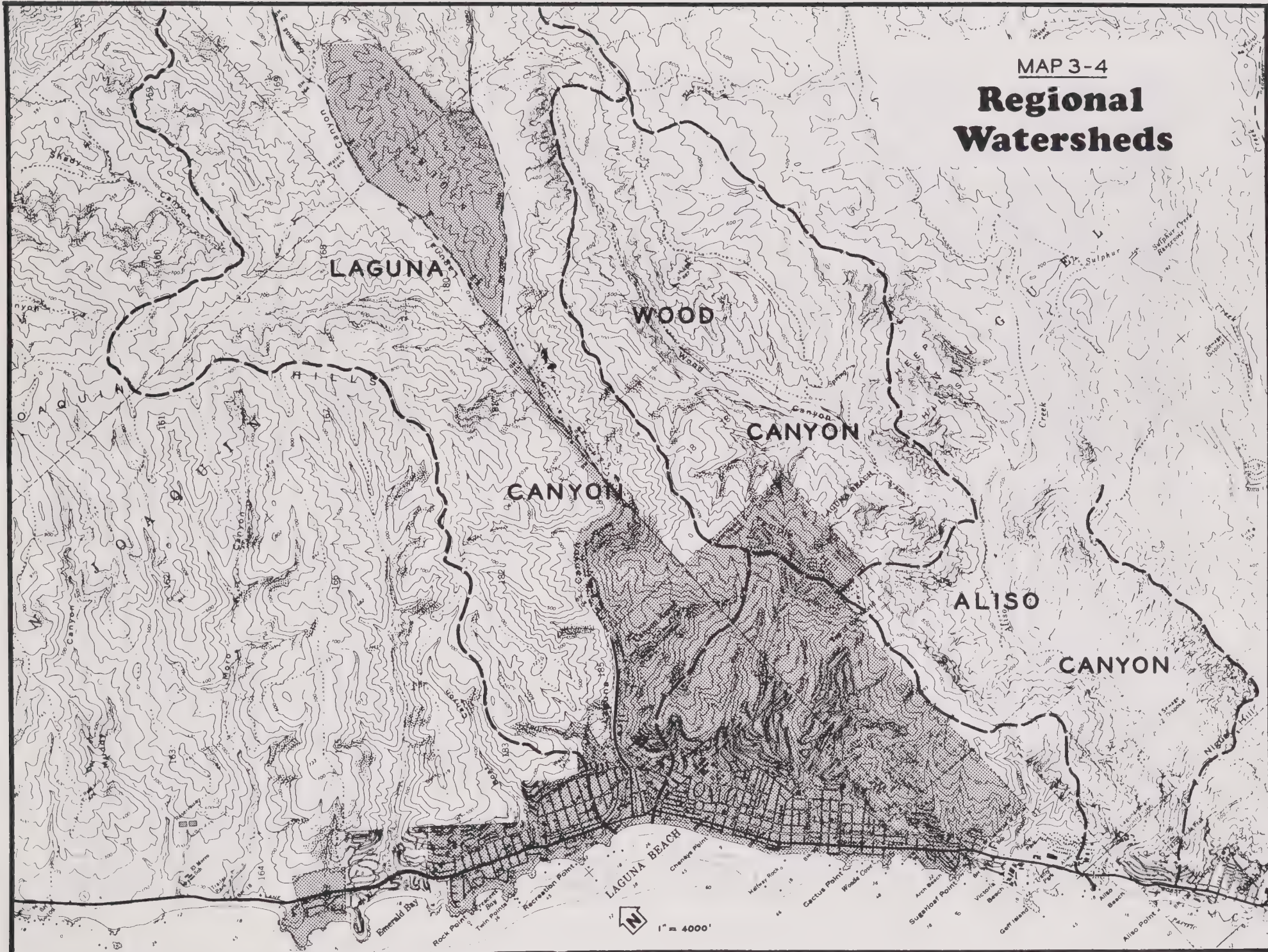
Drainage Course

0 400 800 1600
BASE MAP REVISED 4/1/81
DEPT. OF COMMUNITY DEVELOPMENT, PLANNING DIVISION

City of Laguna Beach

MAP 3-4

Regional Watersheds



Rapid conveyance of runoff in Laguna Beach can place exceptional demands on downstream storm drain improvements, especially those constructed during the earlier urbanization of the coastal shelf between the 1920's and late 1950's. In many cases, these facilities were sized without consideration to future upstream development, or changes in the cycle of rainfall characteristics. For example, the average annual rainfall in 1940 was 7.1 inches, or approximately one-half of that experienced during more recent times.

In addition, the construction of impervious surfaces such as streets, driveways and roofs, reduces the area of soils available for absorption of rainfall and consequently increases the concentration of runoff. The demand for urban land has also resulted in the placement of structures in and adjacent to flood-prone areas, thereby exacerbating the potential for flooding and property and environmental damage, as well as repair and maintenance liabilities. As development in the City has increased, these problems have worsened accordingly.

Issue Identification and Analysis: The City has increased its efforts to protect watershed areas and natural watercourses during the last decade, particularly since adoption of the first Open Space and Conservation Element to the General Plan. There are several reasons for this interest: disturbance of these lands may create hazards such as flooding and mudslides, destroy important public resources such as water supplies and water quality, or damage valuable habitat lands and ecological systems. Any of these events could threaten the general welfare of a community and result in economic loss. The direct costs of not protecting these areas can be high, affecting both property owners and government interests. These costs may include the reduction of property values, the actual destruction of property or the repair or installation of expensive storm drain systems and related public facilities.

Significant natural watercourses in the community were mapped and officially recognized when the City Council adopted an "Environmentally Sensitive Areas Map" in 1974. The map, which was prepared using aerial photographs, topographic maps and individual site analysis, records not only watercourses, but also earthquake faults, major landslide areas, open space preserve areas and sensitive coastal properties. These watercourses are generally depicted on the attached map entitled "Major Watersheds and Drainage Courses." Environmentally sensitive watercourses are defined in the City's Municipal Code as those which "serve a distinct functional, scenic or ecological purpose in their natural condition and setting and which are shown on the Environmentally Sensitive Areas Map". Development projects which encroach into watercourses designated on the Environmentally Sensitive Areas Map are subject to a special review process and detailed design standards, including site planning requirements,

setback provisions and architectural review. Significant natural watercourses and watershed conditions appear on the map entitled "Landforms and Hydrology".

Because some past urbanization has resulted in drainage problems, construction of remedial flood control works is needed in many areas. In response to the need for an upgraded drainage system, the City adopted a Master Plan of Drainage in 1982 which identifies the need for 6.6 million dollars worth of facilities citywide. The implementation of the plan, however, is dependent upon the pace of future development and subdivision activity, and cannot be considered as the only solution to drainage needs. Due to the high cost of these facilities, comprehensive storm water management planning must integrate engineered flood control works with other considerations such as source control, use of natural drainage amenities and watershed management.

The utilization of various government programs, policies and development standards affords an opportunity to protect both the natural and urban environment from the damaging aspects of runoff. However, it must be recognized that runoff management programs have inherent limitations:

Providing protection against any given event, e.g. against the worst storm water runoff of record, does not guarantee that a greater runoff event will not occur;

Since rainfall quantities, especially for localized, high-intensity storms, cannot be accurately predicted, drainage system design must rely on historical observation and experience;

The goal of requiring post-development levels or runoff not to exceed pre-development levels is rarely fully attainable in a hillside environment due to insufficient storage capacity for peak flows;

Providing protection against a 100-year storm event does not guarantee protection against a lesser frequency, i.e., 10 or 25-year storm event, since the rainfall producing this 100-year flood may be of much longer duration and lower average intensities than that producing the 10-year storm drain design peak.

Although the City has adopted a policy of protecting natural drainage courses, recent evidence suggests that this policy may sometimes need to be modified in order to protect and maintain the stability of improved property. One of the causative factors of the Bluebird Canyon landslide that destroyed 24 homes in 1978 was the down-cutting of the natural stream bed, which removed the toe support of an ancient landslide, thereby contributing to its reactivation. Similar conditions to those found in Bluebird Canyon exist throughout the region. In those areas that are developed and found to have documented evidence of down-cutting

that endangers life and property, engineered solutions may have to be implemented in order to achieve an acceptable level of safety.

The hydrologic effects of urban development upon natural and man-made systems require careful analysis and study based upon individual development characteristics and their relationship to the watershed. Due to the wide range of assumptions and conditions that affect the results of these studies, local policy can be instrumental in attaining consistency and an acceptable level of risk.

POLICIES

- 9-A Promote the preservation and restoration of Laguna's natural drainage channels, freshwater streams, lakes and marshes to protect wildlife habitat and to maintain watershed, groundwater and scenic open space.
- 9-B Prohibit filling and substantial alteration of streams and/or diversion or culverting of such streams except as necessary to protect existing structures in the proven interest of public safety, where no other methods for protection of existing structures in the flood plain are feasible or where the primary function is to improve fish and wildlife habitat. This provision does not apply to channelized sections of streams without significant habitat value.
- 9-C a. Streams on the Major Watershed and Drainage Courses Map which are also streams as identified on the USGS 7.5 Minute Quadrangle Series, shall be identified and mapped on the Coastal Environmentally Sensitive Areas Map of the Land Use Plan. For these streams, a minimum setback of 25 feet from the top of the stream banks shall be required in all new developments. A greater setback may be necessary in order to protect all riparian habitat based on a site-specific assessment. No disturbance of major vegetation, or development, shall be allowed within the setback area. This provision shall not apply to channelized sections of streams without significant habitat value. Where development is proposed on an existing subdivided lot which is otherwise developable consistent with all City ordinances and other policies on this Plan except that application of this setback would result in no available building site on the lot, the setback may be reduced provided it is maintained at a width sufficient to protect all existing riparian habitat on the site and provided all other feasible alternative measures, such as modifications to the size, siting and design of any proposed structures, have been exhausted.

- b. Require a setback of a minimum of 25 feet measured from the centerflow line of all natural drainage courses other than streams referenced in 9-C(a) above. Such setback shall be increased upon the recommendation of the city engineer and environmental planner through the environmental review process. However, a variance may be given in special circumstances where it can be proven that design of a proposed structure on an affected lot will preserve, enhance or restore the significance of the natural watercourse. At no time shall grubbing of vegetation, elimination of trees, or disturbance of habitat be allowed within the setback area before or after construction.
- 9-D Permit extensions of decks and other portions of a structure within the required setback for significant natural drainage areas only if:
 - a. There are no supports to the ground within the setback areas;
 - b. The extensions do not encroach closer than fifteen feet from the centerline of flow.
- 9-E Require Design Review for development projects which include portions of a natural drainage course.
- 9-F Where possible, require restoration of deteriorated significant natural drainage courses that have been disturbed by development, but which retain potential for natural function.
- 9-G Develop standards for maintenance of free and adequate flow in natural drainage channels.
- 9-H Coordinate, wherever possible, natural and man-made drainage structures so that natural channels will contribute to transport a volume of runoff equal (or as close as possible) to that which would have occurred if the project watershed were in its natural condition before development.
- 9-I Require new development projects to control the increase in the volume, velocity and sediment load of runoff from the greatest development areas at or near the source of increase to the greatest extent feasible.
- 9-J Require new developments to maintain runoff characteristics as near as possible to natural discharge characteristics by maintaining the natural conditions of the watershed.
- 9-K Promote preservation and enhancement of the natural drainage of Laguna Beach.

- 9-L In conjunction with the County of Orange, prepare a flood control plan and program of implementation for Laguna Canyon and all tributaries, pending funding availability.
- 9-M Where feasible, require flood control programs to incorporate non-structural methods, such as preservation of watershed lands and natural drainage channels, rather than structural methods such as concrete flood channels and engineering works.
- 9-N Encourage private property owners to inspect and maintain private drainage structures, particularly before the rainy season and during heavy storms.
- 9-O Investigate methods of establishing and maintaining debris collection devices at suitable locations in the major canyon areas prior to the rainy season, pending funding availability.
- 9-P Initiate proceedings to amend the Master Plan of Drainage to allow expenditure of funds for debris collection devices.
- 9-Q Oppose new development within the City's surrounding areas that would result in significant adverse impacts to the City's hydrology.
- 9-R Periodically review the City Master Plan of Drainage to ensure it promotes the objectives of the City's General Plan.
- 9-S Erosion control measures shall be required for new development in areas designated Hillside Management/Conservation, as specified in Title 22 of the City's Municipal Code for properties adjacent to the Aliso Greenbelt. No grading, trenching or similar activity shall be permitted within Aliso/Wood Canyon Watershed during the rainy season from October 1 to April 1.
- 9-T All graded areas shall be planted and maintained for erosion control and visual enhancement purposes. Use of native plant species shall be emphasized.

TOPIC 10: NATURAL HAZARDS

Background: Open space uses have performed a valuable role in protecting the public's health and safety from natural hazards. In many cases, the presence of known natural hazards requires special management solutions and/or development standards to minimize the risk of exposure to these conditions. In other cases, however, development may be precluded altogether when hazardous conditions are known.



* THIS MAP WAS COMPILED FROM THE GEOLOGIC CONSTRAINT AND LAND USE CAPABILITY MAP (LEIGHTON AND ASSOCIATES, 1975) AND OTHER SOURCES. REFER TO THE TEXT FOR A DESCRIPTION OF CONDITIONS AND REFERENCES. THE MAP IS INTENDED FOR GENERAL LAND USE PLANNING ONLY; SUITABILITY OF SPECIFIC USES FOR A SPECIFIC SITE MUST BE CONFIRMED.



General Plan and Local Coastal Plan

Geologic Conditions*

- SLIDE PRONE FORMATIONS
- POTENTIALLY ACTIVE FAULT
- INACTIVE FAULT
- LANDSLIDE
- LIQUEFACTION MODERATE POTENTIAL
- LIQUEFACTION LOW POTENTIAL
- SOFT COASTAL HEADLANDS

0 400 800 1600

BASE MAP REVISED 4/1/81
DEPT. OF COMMUNITY DEVELOPMENT, PLANNING DIVISION

The topographic and geologic characteristics in Laguna Beach have accentuated the need for careful hazard identification and planning. In the City and elsewhere, experience has shown that failure to adequately investigate and mitigate these hazards can result in loss of homes and public facilities. Open space planning can be used as a means to protect the public. By placing open space uses on hazard lands, many public objectives can be achieved: preventing loss of life; minimizing property damage; and protecting public investments in facilities and utilities. In the following discussion, three natural hazards most apparent in Laguna Beach are emphasized: geology, fire and flood. It should be noted that the subject of natural hazards is discussed in considerable detail in the Seismic and Public Safety Element of the City's General Plan.

Issue Identification and Analysis:

Geology: There are two principle sources of geologic instability in Laguna Beach: faults and unstable hillsides combined with steep slopes, refer to map entitled "Geologic Conditions."

The City lies in a seismically active region vulnerable to ground shaking and related geologic hazards. There are three major faults in the region: Newport-Inglewood, San Jacinto and San Andreas. Locally, Laguna Beach has two major fault systems: Laguna Canyon and Temple Hills. Technically, both of these faults are inactive, which means that geological evidence shows that no motion has occurred for 11,000 to three million years. A few faults in Laguna Beach are listed as potentially active (meaning evidence is lacking on whether motion has occurred from 11,000 to three million years ago), such as the Pelican Hills Fault, which passes across the Irvine Ranch and through Upper Irvine Cove into the sea.

The stability of hillside lands is a product of underlying geology and slope conditions. The geologic structure of the community has produced many dip-slope conditions (where the slope of the surface conforms in angle to the plane of the underlying bedrock). These exposed dip slopes are typically unsupported and have the potential for movement, particularly when aggravated by natural and/or human processes. Rainfall, erosion, earthquakes and human activities, such as grading and irrigation, can amplify the effects of unstable earth characteristics and may even cause slope failure. Geologic hazards and risk of slope failure are proportionately greater as the land slope increases.

The myriad of geologic features that are experienced in Laguna Beach make a planning-policy approach a difficult and complex task. Existing policies in the Seismic and Public Safety Element of the General Plan, as well as standards in the Grading and Geology regulations encourage a thorough site-specific evaluation and review of geologic factors before land use decisions are made. In the developed areas of the City, however, remedial

measures are often difficult to implement because of existing development patterns, as well as the high cost associated with such remedial work.

Fire: The City's open space lands are particularly vulnerable to wildland fires, due primarily to the topography, vegetation and climate of the area. Rugged hills that are cut with steep canyons and covered with coastal sage scrub, chaparral and grasslands surround the developed portion of the City. This type of vegetation is highly flammable, while the rugged topography limits access to the area and inhibits fire fighting efforts. The Mediterranean climate of the region also contributes to hazardous fire conditions; little or no rain falls between April and November, creating dry and dead vegetation within the open space lands. In addition, seasonal Santa Ana winds, which usually blow at high velocities, occur during the fall and winter months and increase the risk of rapidly spreading wildland fires. These fires can be particularly destructive by eliminating plant and wildlife habitats and disrupting significant ecological lands.

Prevention of fires within the community's open space is a major concern in Laguna Beach. The City's Fire Department utilizes a number of wildland fire prevention programs directed toward the interface of undeveloped and urban regions of the City. Recognizing that most fires are started by human activity, the Laguna Beach Fire Department restricts public access to much of the community's open space lands from mid-May to mid-December. A second fire prevention method (one which has been utilized within the City in excess of 30 years) is the weed abatement program. This program is designed to abate light fuel fire hazards in urbanized areas during the spring and early summer before the hot, dry and seasonal Santa Ana wind conditions.

At one time, the County of Orange carried out a fuel break program, initiated in 1963, which created a wide strip or block of land on which the native vegetation was modified so that fires could be easily extinguished. A low ground cover was maintained to protect the soil from erosion, while the trees and shrubs were pruned upward. This program was designed to eliminate 80% to 90% of the fire volume at the urban interface; however, due to several law suits filed against Orange County by Laguna Beach homeowners (because of erosion and visual impacts) and fiscal constraints (maintenance costs), the program was abandoned by the County. Only the area from Emerald Bay to the north side of Laguna Canyon and the southeastern portion of Arch Beach Heights was completed. The City of Laguna Beach has essentially taken over this program and is presently involved in an experimental program to achieve a proper balance between fire protection and environmental concerns. Several fuel breaks have been required in connection with recent subdivision approval. Other mechanisms used by the City to enhance fire safety include special construction requirements (fire retardant roofs), and public education and awareness programs.

Flooding: Virtually all stages of the natural hydrologic cycle, including flooding, have been significantly altered by human intervention. Changes in land use, from open space to urbanization, have profound effects on runoff and erosion on the land surface. The creation of impermeable surfaces that accompany urbanization increases and concentrates runoff, leading to a greater incidence of flooding.

The effects of storm water runoff in the City of Laguna Beach are not typical of problems in inland areas where runoff from several tributary areas combine to inundate low elevation areas. Runoff water in Laguna Beach follows relatively steep gradient courses directly to the beach. Runoff from individual drainage areas does not combine except in the cases of the larger areas, such as Bluebird and Rimrock Canyons.

Because of the topography (a relatively long and narrow coastal plain backed by rugged terrain covered by brush) each drainage area is an entity unto itself. Although many of these drainage areas are basically in an unaltered state, their lower reaches have been culverted or channelized.

Storm severity is a function of both rain frequency and rain intensity. Most surficial hillside damage is brought about by sudden deluges falling on already saturated ground. Storms that combine high total rainfall over a long duration, as in the 1969 storm, are the most destructive. Heavy runoff and accelerated erosion are associated with this type of short period torrential rain, as well as with the storms of longer duration and greater totals.

Historically, floods causing significant structural damage have occurred in Laguna Canyon in 1937, 1938, 1941, 1966 and 1978. Most recently, during 1983, major flooding in Laguna Canyon resulted in the temporary evacuation and displacement of residents and businesses until floodwaters retreated. Damage due to flooding has lessened through the years, due to intermittent construction of drainage facilities in the lower reach of the canyon. However, recent flooding has been aggravated by such factors as poor flow alignment, inadequate capacity of channels and inlets, and excessive debris. Encroachment on the flood plain, via development, has created obstructions to the natural path of flow.

The City's floodways were identified and evaluated in a study published in March 1979, in connection with the Flood Insurance Study conducted by the U. S. Department of Housing and Urban Development, Federal Insurance Administration. Standard hydrologic study methods were used to determine flood hazard data. Flood effects of a magnitude 10, 50, 100 and 500 year frequency were used, based on their significance in flood plain management. The analysis reflects flood potentials based on conditions existing in the community at the time of the study; maps and flood elevations will be amended periodically to reflect future changes

in land use and/or flood improvements. As a result of the study, the City converted to the Federal Flood Insurance Program by establishing flood hazard zones and associated special development standards.

In addition to the Flood Insurance Study, the City has two documents which specifically relate to drainage and flooding in Laguna Beach: (1) the City's Master Plan of Drainage, intended as a guide for future drainage facilities, identifies major drainage system deficiencies, proposes corrections, estimates costs and establishes priorities for construction of improvements; (2) the Flood Damage Prevention and Prohibition section of the City zoning ordinance, intended to protect the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas.

POLICIES

- 10-A Require that plan review procedures recognize and avoid geologically unstable areas, flood-prone lands, and slopes subject to erosion and slippage.
- 10-B Require the incorporation of open space into the design of new development in hillside and canyon areas, where feasible, for the purposes of reducing the potential for spread of wildfires from structure to structure.
- 10-C Require projects located in geological hazard areas to be designed to void the hazards where feasible. Stabilization of hazard areas for purposes of development shall only be permitted where there is no feasible alternative location or where such stabilization is necessary for public safety. In any case, development should be generally discouraged within geologic hazard areas.
- 10-D Reevaluate existing flood plain management regulations to ensure the potential for damage from debris is reduced.
- 10-E Development in the areas designated "Hillside Management/Conservation" on the Land Use PlanMap or within potential geologic hazard areas identified on the Geological Conditions Map of the Open Space/Conservation Element shall not be permitted unless a comprehensive geological and soils report is prepared pursuant to Title 22 of the City's Municipal Code, and adequate mitigation measures have been approved and implemented by the City's geologist. For projects located in areas subject to hazards as identified on the Geologic Conditions Map or subject to erosion, landslide or mudslide, earthquake, flooding or wave damage

hazards confirmed by a geologic assessment, as a condition of approval or new development a waiver of liability shall be required through a deed restriction.

- 10-F To minimize risk to life and structures, new development located in established floodprone lands shall incorporate all appropriate measures pursuant to the City's "Flood Damage Prevention and Prohibition Ordinance."

TOPIC 11: AIR QUALITY

Background: Laguna Beach has better air quality than inland Orange County and the Southern California Basin. The reasons for this are attributable to the City's coastal location and physical setting, and to a lack of large, pollution-generating sources.

These favorable conditions protect the City from the poor air quality that exists only ten to fifteen miles away. Severe smog conditions arise when high temperatures contribute to the formation of an inversion layer that holds the smog close to the ground. In Laguna Beach, as the land air mass becomes heated and rises, cool ocean air is pulled inland. These ocean breezes blow pollution inland, and prevent inland pollution from reaching the City. When the sea breezes fail, however, and the inversion layer is low, smog can become noticeable in the City.

Another natural barrier that serves to buffer Laguna Beach from inland pollution sources is the San Joaquin Hills, which surround the City. Steep-sided brush, and grass and tree-covered hills act as a barrier to physically prevent polluted air from reaching the community; they also represent thousands of acres of open space which act as a clean air generator, due to the oxygen producing characteristics of the vegetation.

Even though the City's physical location reduces air pollution, it still exists, mainly due to the presence of automobile emissions. Current data on pollution levels in Laguna are impossible to obtain, since the Laguna Beach air quality monitoring station was closed in 1977 due to insignificant levels of air pollution. However, data recorded during the station's operation (April 1974-April 1977) indicate that the main pollutants in Laguna Beach are carbon monoxide and oxidant. Carbon monoxide is classified a primary pollutant because it is emitted directly from a source (i.e., automobile emissions) and is generally limited to the area near the source. Oxidant (commonly referred to as ozone), on the other hand, is the product of an atmospheric photochemical reaction of primary and secondary pollutants and is usually experienced over a wide area downwind of the primary pollution sources, thereby qualifying as a secondary pollutant.

Oxidant (ozone) concentrations, which are blown from inland valley locations are the major pollutant in the City. Carbon monoxide concentrations do not reach harmful levels as often as ozone, but the problem is a more persistent one. Highest carbon monoxide measurements are detected along Pacific Coast Highway, where daily traffic congestion pushes up levels; the worst carbon monoxide pollution episodes are experienced during the summertime, when heavy visitor traffic combines with occasional summer inversion layers.

Issue Identification and Analysis: Laguna Beach presently enjoys relatively clean, healthful air. However, as more open space land is converted to residential development in and around Laguna, air quality may decline. Continued local and regional growth will also contribute to air pollution as more automobiles appear in Orange County. Regionally, automobile emissions are already the number one source of air pollution.

Although air quality is largely the product of areawide climatic conditions that must be mitigated on a regional basis, local governments can influence air pollution activities by participating in areawide anti-pollution efforts. At the local level, each City can recognize its individual responsibility to maintain good air quality. Conversely, regular air quality guidelines and decisions should reflect the interests of individual municipalities.

POLICIES

- 11-A Promote the establishment of effective regional, state and federal standards and programs for control of all airborne pollutants and noxious odors, regardless of source.
- 11-B Participate in planning of land use and transportation developments in adjacent areas to ensure adequate consideration of air quality.
- 11-C As part of the review of development proposals, recognize the importance of open space as a clean air generator that helps buffer the community from inland pollution. To this end, establish a system for recognizing and preserving permanent open space lands.
- 11-D Oppose the development of pollution-generating sources, such as oil or gas exploration or drilling, off Laguna's shores.
- 11-E Maintain and encourage the use of innovative non-polluting modes of city transit.

11-F Widening of Pacific Coast Highway by construction of additional lanes or removal of parking on the highway shall not be permitted. Minor improvements which result in minor alignment modifications or loss of on-street parking may be allowed provided that when such parking is removed it shall be replaced on a one for one basis within the Central Business District (which is the area covered by the Laguna Beach Downtown Specific Plan) or Commercial/Tourist Corridor as demarcated on the Land Use Plan Map.

TOPIC 12: ARCHAEOLOGY/PALEONTOLOGY

Background: Archaeology is the study of human life in prehistoric time, while paleontology is the study of life in geologic time. Because most archaeological/paleontological resources are buried beneath the earth's surface, studies in these areas almost always entail delicate excavation work. This work is much like turning the pages of a historical volume, layer by layer, to reveal the valuable prehistoric information underneath.

Many archaeological/paleontological sites are being destroyed each year by urban development. In Laguna Beach, numerous archaeological/paleontological sites have been recorded, including several finds of major importance. The Laguna Woman, for example, which was discovered in the City in 1933, was estimated through radio-carbon dating to be 17,150 years old. This discovery marked a significant cornerstone in the archeological history of the continent, providing important insights into the chronological development of earlier cultures. In addition, one of the most important paleontological areas in the United States is found just south of the City, in Aliso Creek. Some archaeologists believe that because of the plentiful supplies of food and water and the pleasant living environment that was available, the entire Laguna Beach area was probably utilized by prehistoric inhabitants, leaving an abundance of cultural relics.

Issue Identification and Analysis: Unfortunately, the development of much of the City has already resulted in the covering or destruction of potentially significant archaeological/paleontological resources. As a result, the remaining, undeveloped portions of Laguna Beach have an even greater value as possible prehistoric sites. Consequently, consideration for their preservation is particularly important.

A variety of measures are available to preserve and protect important cultural resources. Most common is the environmental review process (pursuant to the California Environmental Quality Act), and/or subdivision review, wherein conditions may be attached to an approved tentative map, requiring the investigation of cultural resources. In Laguna Beach, both of these procedures are practiced. However, not all projects are subject to these provisions, thus some development projects escape close scrutiny by the City.

The City has developed more definitive guidelines for the investigation and subsequent preservation of significant cultural resources in connection with its Coastal Plan. (See Appendix.) As outlined below, these guidelines are intended to establish a comprehensive and systematic program for cultural resource conservation, thus enabling the City to preserve these resources when determined to be of significant historic value.

POLICIES

- 12-A Promote the conservation of land having archaeological and/or paleontological importance, for its value to scientific research and to better understand the cultural history of Laguna Beach and environs.
- 12-B Develop a program which systematically inventories, records and preserves significant cultural resources in the community, in accordance with the guidelines in the City's Local Coastal Plan.

TOPIC 13: RIDGELINES

Background. The City's steep hillsides are capped by an extensive network of ridgelines that are some of the highest and most distinctive of the entire San Joaquin Hills range. Due to the steepness and fault block origin of the local hillsides, these ridgelines have a relatively sharp and pronounced shape. A ridgeline can generally be defined as a long and narrow crest of elevated land. As depicted by the illustrations below, it is the linear orientation of a ridgeline that primarily serves to distinguish it from other portions of the hillside. A given hillside will usually have a series of ridgelines. Typically there is a dominant ridgeline that constitutes the highest crest of the ridge structure, with several other ridgelines radiating outward from the dominant ridge. These other ridgelines usually form divides between adjoining localized watersheds. Major ridgelines in Laguna Beach are generally delineated on Map 3-5.

CIRCULAR CONTOURS

PARABOLIC CONTOURS



Undefinable Ridge
(This is a "rise"
or "dome")

Definable
Ridge

Clearly
Definable

The primary significance of ridgelines as open space stems from their function as a visual resource. They are generally the most prominent and sensitive feature within a hillside landscape. This is due not only to the fact that ridgelines are the most elevated and exposed portion of the hillside, but also because they often serve as the outline or skyline of the landscape.

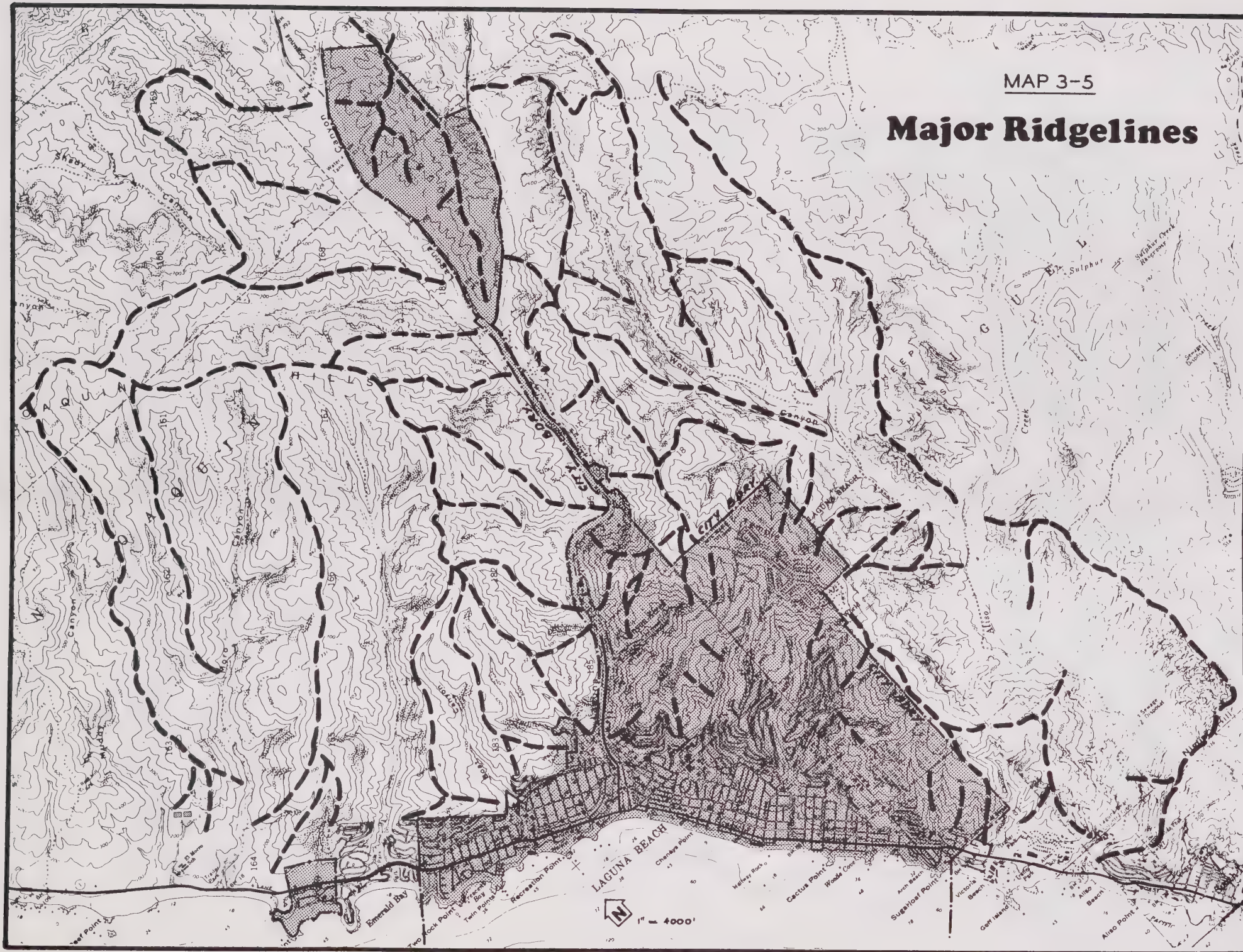
In Laguna Beach, the need for protecting ridgelines is particularly acute for the following reasons: (1) because of the physical orientation of the hillsides, the major ridgelines are highly visible in the City; (2) many ridgeline areas have already undergone development, leaving only a limited number still remaining in a natural state; and (3) ridgelines continue to represent a highly desirable area for development.

The accompanying map entitled "Ridgelines" attempts to generally identify the more prominent ridgelines in the City. Some of these ridges are developed and others remain in largely a natural state. Many other unmapped ridgelines are also apparent in the City but these are comparatively less imposing than those appearing on the map. Regulations affecting ridgeline development, however, are intended to apply to all ridgelines, both large and small. The particular nature of development controls will be largely influenced by individual conditions, and may vary from location to location.

Issue Identification and Analysis. The preservation of ridgelines is largely dependent upon controlling new development. Since individual ridgelines differ in the level of their aesthe-

MAP 3-5

Major Ridgelines



tic significance, it is not practical or reasonable to establish rigid regulations for this development. Instead, ridgelines that are proposed for development should be individually evaluated in order to determine the most appropriate measure for protecting their aesthetic quality.

There are three basic measures that can be used to protect ridgelines: restricting the amount of development; regulating the location of development; and regulating the design of development. The degree of development restriction should be directly related to the significance of the ridgeline in question. The level of significance is usually determined by the following conditions:

1. Physical stature and prominence of the ridgeline.
2. Special physical characteristics of the ridgeline (e.g., sharp edges, rugged form).
3. Prominent physical features located along the ridgeline.
4. Visibility of the ridgeline within the surrounding viewshed.
5. Exposure of the ridgeline to large numbers of people.

If it is found that a ridgeline rates high in terms of all or most of these factors, it may not be possible for any development to be accommodated without compromising the ridgeline's aesthetic appeal. In instances where a ridgeline is determined to be of more moderate significance, a limited amount of development may be acceptable. In all cases, though, development should not be allowed to overshadow the ridgeline's natural appearance.

The physical characteristics of a ridgeline may also influence the actual location or design of a project. For example, particularly noteworthy physical features should be isolated from development and integrated into the aesthetic design of the project.

The physical design of a project can also be an effective measure to ensure protection of ridgelines. Such design considerations may include the following:

1. Location of Structures in Relation to Crest of Ridgeline. Design requirements may include: (a) locating new structures below the plane of the ridgeline as viewed from major vantage points; (b) requiring new structures to be removed from the crest of the ridgeline by a prescribed distance; and (c) requiring low profile or other special types of building designs.

2. Subdivision Design. Considerations may include increased lot widths, intermittent open space between lots and staggered setbacks. Design features of this nature can frequently minimize unwanted uniformity, rigidity and linear continuity.

3. Grading. Grading for building sites can also have adverse aesthetic impacts. Grading plans for hillside developments must be reviewed to ensure that the physical and environmental conditions of the area are addressed.

4. Design Review. Other aspects of ridgeline development, such as building design, architectural treatment, siting of structures and landscape screening, can all be aesthetically significant, and should be considered as part of the design review process.

Ridgeline development in a hillside environment like that of Laguna Beach frequently presents some difficult choices. For example, ridgelines usually offer the most feasible hillside development areas and can often be developed with a lesser amount of overall environmental impact than if the development were located below the ridge. This is because locating development on top of a ridgeline may require less grading for access and typically these areas are more geologically stable. Avoidance of steep slopes and significant biotic areas may also necessitate ridgeline development. Each proposed hillside project must be individually evaluated in terms of its most appropriate location on the site. It should be noted that where subdivisions are proposed, adverse environmental impacts must either be mitigated or the subdivision must be denied. The State Subdivision Map Act mandates denial of a subdivision under certain conditions, which include the following: if it is not "consistent with applicable general and specific plans;" if "the site is not physically suitable for the type of development;" if it is "not suitable for the proposed density of development;" or if "the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or the habitat."

POLICIES

- 13-A Preserve the function of ridgelines, hillsides and canyons as a link between adjoining open space areas.
- 13-B Require that development proposals, including additions and alterations to existing buildings, incorporate protection of the natural profile of ridgelines as visual resources.

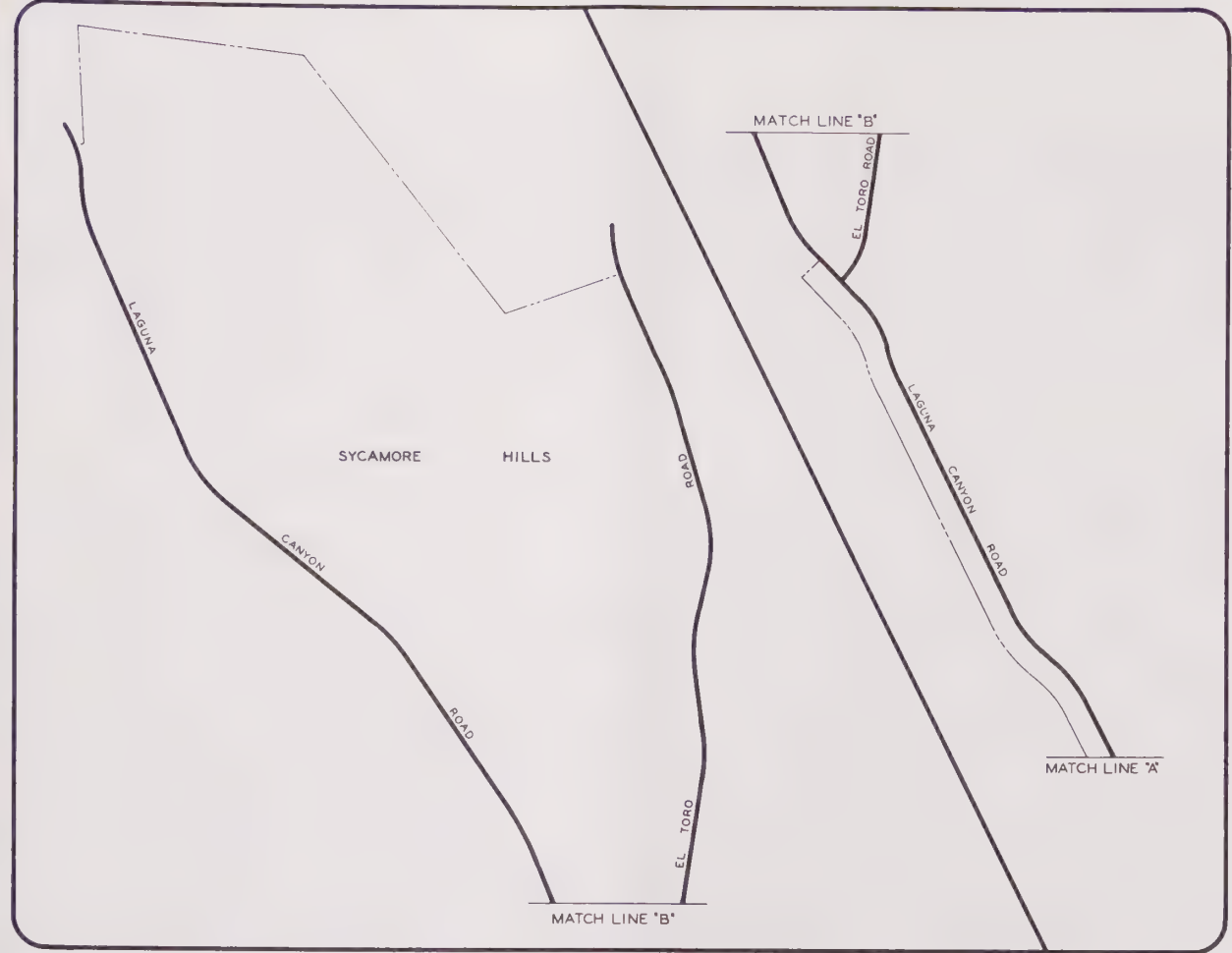
- 13-C Discourage ridgeline development in order to protect highly visible and exposed portions of the ridgeline, including outstanding physical features, such as rock outcroppings, vertical slopes and caves, and study the feasibility of prohibiting development on the prominent ridgelines.
- 13-D Require environmental impact reports for ridgeline development projects include a watershed analysis with cross-sections and recommended mitigation measures.
- 13-E Discourage the utilization of uninterrupted, linear design patterns for ridgeline subdivisions and encourage the use of innovative design techniques like variable setbacks and building heights.
- 13-F Require all ridgeline development to be reviewed and approved by the Design Review Board.
- 13-G Encourage the dedication of suitable ridgeline sites for public viewing and access purposes.
- 13-H Preserve public views of coastal and canyon areas from ridgelines.

TOPIC 14: HILLSIDE SLOPES

Background: A large proportion of the City's land area is composed of undeveloped hillsides and slopes exceeding 45 percent. The accompanying map entitled "Slopes" divides the City's hillsides into three slope categories for general illustrative purposes. These hillsides are part of the central portion of the San Joaquin Hills range and include some of the highest and steepest hillsides within the range. Overall, it is likely that the extent and steepness of hillsides in Laguna Beach is greater than in any other city in Orange County. The slope map does not record slope categories for Sycamore Hills, although topographic information for this area is available at the City of Laguna Beach.

Slope, simply stated, is an inclined ground surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance. The slope of land may thus be calculated by dividing the change in vertical distance (rise) by the change in horizontal distance (run). Although slope may be measured in degrees, ratios or percent, the latter is most commonly used for land use planning purposes and is calculated by the formula:

$$\text{Slope \%} = \frac{\text{Rise}}{\text{Run}} \times 100$$



NOTE: SLOPES, AS SHOWN ON THIS MAP, ARE GENERALIZED AND NOT NECESSARILY INDICATIVE OF ALL SITE-SPECIFIC CONDITIONS. THE PREDOMINANT SLOPE CHARACTERISTIC IS SHOWN DUE TO LIMITATIONS OF SCALE.



**General Plan
and
Local Coastal Plan**

Slope

[White Box]	0-29 PERCENT
[Light Gray Box]	30-44 PERCENT
[Dark Gray Box]	45+ PERCENT

0 400 800 1600

BASE MAP REVISED 4/1/81
DEPT. OF COMMUNITY DEVELOPMENT, PLANNING DIVISION

City of Laguna Beach

Issue Identification and Analysis: In hillside areas, it is generally desirable to preserve the more steeply sloping portions of the terrain as open space for both aesthetic and environmental reasons. In terms of aesthetics, steep slopes contribute significantly to the physical character and scenic value of the hillsides. Steep slopes are generally more visible and highly exposed than other portions of the hillsides, lending impressions of prominence and boldness to the hillside landscape. From an environmental standpoint, steep slopes are more sensitive, in that they are prone to instability, soil creep, accelerated erosion and rapid runoff.

All of these circumstances constitute legitimate reasons for preserving the steeper portions of the hillsides as open space. In most cases, development proposals will be designed to avoid areas of steep slope if possible, since it is usually more difficult and costly to build within such areas. However, the continued diminishment of developable hillside building areas is causing greater pressure for development on steeper slopes. Consequently, there is a need to establish parameters for regulating new development within areas of steep terrain. These regulations concern access, density, environmental impacts and aesthetics. In response to these concerns, the City's new Land Use Element, adopted in October 1983, incorporates slope/density standards which equate the density of development with slope conditions. These standards are integrated into the land use category entitled "Hillside Management/Conservation," which is applied to most of the City's undeveloped hillside lands.

Access. A major determinant for land use suitability is the availability of access. In order to develop homesites, roadways or driveways must be graded in order to afford access for the property owner, emergency and service equipment, and to provide for the supporting utility infrastructure. Using empirical techniques, a correlation between slope and access availability can be demonstrated.

By utilizing the parameters contained in the City's current grading ordinance (i.e., maximum slope height is 25 feet, maximum slope ratio is 2 to 1), and by correlating these standards to natural slope, the feasibility of providing access may be determined by the following procedure:

$$\text{Maximum Natural Slope} = \frac{50}{(100) + \text{Road Width}}$$

<u>Required Width</u>	<u>Maximum Slope</u>
9'	46.3%
10'	45.5%
12'	44.6%
16'	43.1%
24'	40.3%
32'	36.9%
40'	35.7%
66'	30.1%

The preceding table assumes maximum slope heights at a 2:1 ratio; therefore, if a parcel of land is to be served by a 12-foot-wide driveway, it may not slope steeper than 44.6% without violating the current grading code. It can, therefore, be concluded as a general rule that lands with a slope of less than 45% have access potential, whereas lands steeper than 45% do not. Furthermore, land slopes in excess of 50% may not be cut under current standards, inasmuch as 50% is equivalent to the maximum permitted cut slope ratio of 2:1.

Depending upon localized conditions, lands in the 30% to 44% slope category have variable access opportunities, ranging from good to poor. Although roads can ordinarily be accommodated on slopes of this gradient range, they are generally not desirable. Above a 30% grade, both vehicular and pedestrian travel begin to be more difficult. In addition, there is an impairment to safe and efficient access by emergency vehicles. According to the City Fire Department, street grades should be limited to a maximum of 15% to provide for efficient emergency access.

Environmental Impacts. The chief terrain problems in the major canyon areas consist of bedrock landslides on dip slopes, compressible stream deposits in canyon fills on valley floors, thick residual soils subject to creep, settlement and expansion, soil failures and rock falls on steeper slopes, groundwater problems, erosion and deposition problems, potential removal of bedding support on dip slopes, and high water tables within the canyon floors. These problems are, to a great extent, a function of slope, with the hazard and risk of occurrence being proportionately greater the steeper the land slopes.

Aesthetics. The reasons for preserving steep slopes on the basis of aesthetics involve both the aesthetic quality of steep slopes and the degradation to the landscape that can result from developing steep slopes.

With respect to aesthetic quality, the steepest portions of the hillsides not only constitute one of the most highly exposed portions of the landscape, they also contain some of the most

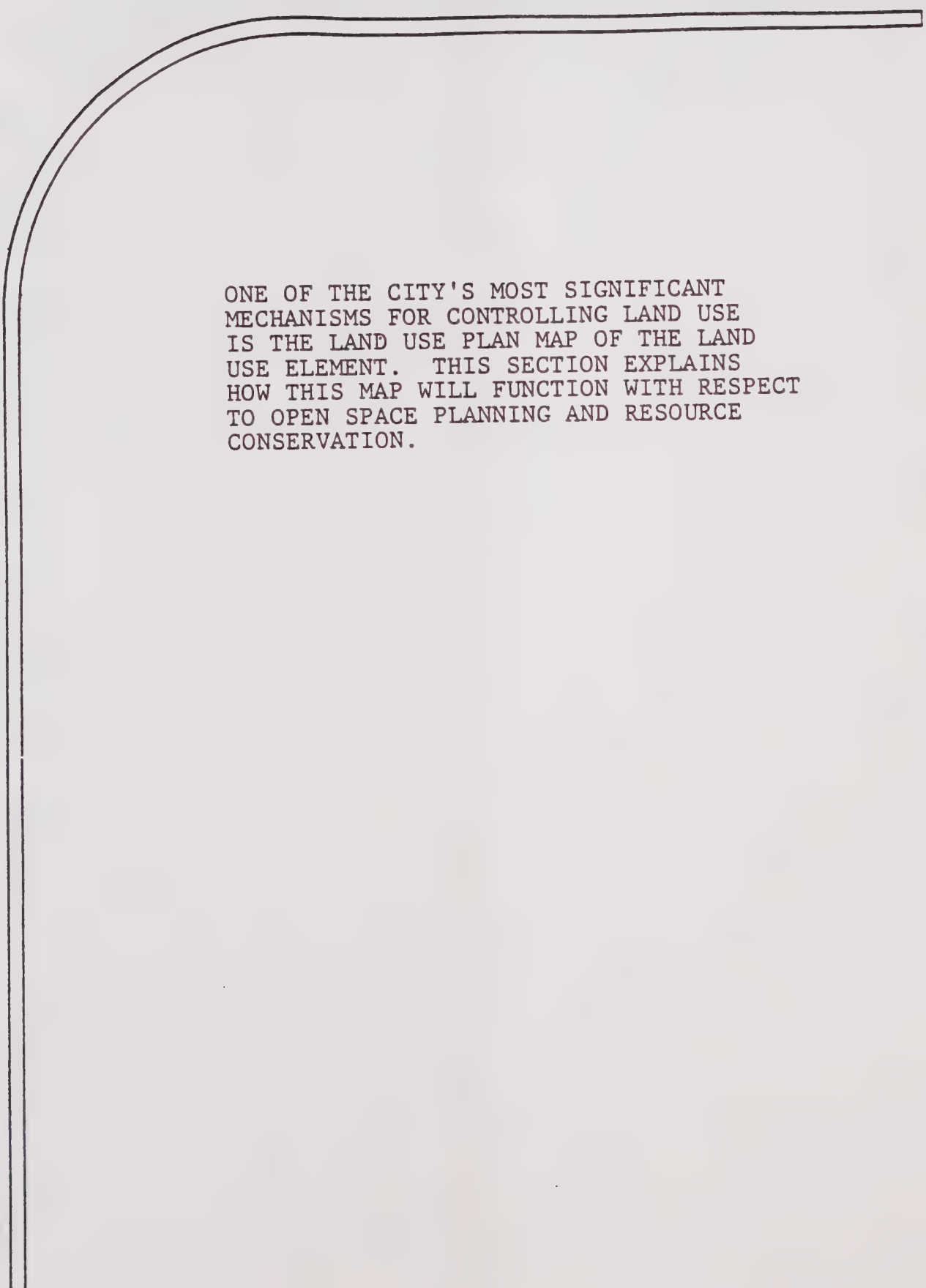
distinctive and appealing features, including the faces of cliffs and incised canyon sides. For lands of moderately steep slopes of 30% or more, the quality of the landscape is generally of a less exceptional nature; however, these are of aesthetic significance in that they are more highly visible than the more level portions of the hillside.

POLICIES

- 14-A Require hillside development be concentrated on slopes of 30% or less.
- 14-B Prohibit hillside development on slopes of 45% or greater.
- 14-C Prohibit new building sites that would require construction of a street of 15% or more in grade.
- 14-D Encourage driveway access to new building sites to be 10% or less in grade.
- 14-E Require all development on slopes of 30% or greater to be reviewed and approved by the Design Review Board.
- 14-F Require grading projects to minimize earth-moving operations and encourage preservation of the natural topographic land features.
- 14-G Prohibit the dumping of excess fill within hillside areas unless necessary for the public's health and safety.
- 14-H Encourage inaccessible hillside property to be dedicated to the city as permanent open space.
- 14-I Discourage new roads or extensions of existing roads into currently inaccessible areas.
- 14-J As a condition of approval of any new development in the "Hillside Management/Conservation" designation, the offer of a permanent open space easement over that portion of the property not used for physical development or service shall be required to promote the long-term preservation of these lands. Only consistent open space uses shall be allowed by the easements. Except for passive recreation, trails or trail-related rest areas, development shall not be allowed in this easement area. The offer of easement shall be in a form and content approved by the City and shall be recorded and run with the land, and shall be irrevocable for 21 years from recordation. The creation of homeowner's or other organizations, and/or the preparation of open space management plans may be required by the City to provide for the proper utilization of open space lands.

LAND USE PLAN

CATEGORIES



ONE OF THE CITY'S MOST SIGNIFICANT
MECHANISMS FOR CONTROLLING LAND USE
IS THE LAND USE PLAN MAP OF THE LAND
USE ELEMENT. THIS SECTION EXPLAINS
HOW THIS MAP WILL FUNCTION WITH RESPECT
TO OPEN SPACE PLANNING AND RESOURCE
CONSERVATION.

Section 4: Land Use Plan Categories

One of the most important functions of the Open Space/Conservation Element is to establish the means through which valuable open space will be preserved. Since this objective is largely one of land use planning, it also involves the Land Use Element. This section explains the City's approach to land use planning for open space preservation through the joint application of the Land Use and Open Space/Conservation Elements.

The most significant general plan tool for land use planning is the Land Use Plan Map contained within the Land Use Element. This map graphically illustrates the general location and distribution of land use and establishes general standards for population density and building intensity in each of the land use categories. The City's Land Use Plan Map uses three categories of land use for the purpose of recognizing and preserving valuable open space and conservation lands and recreational areas.

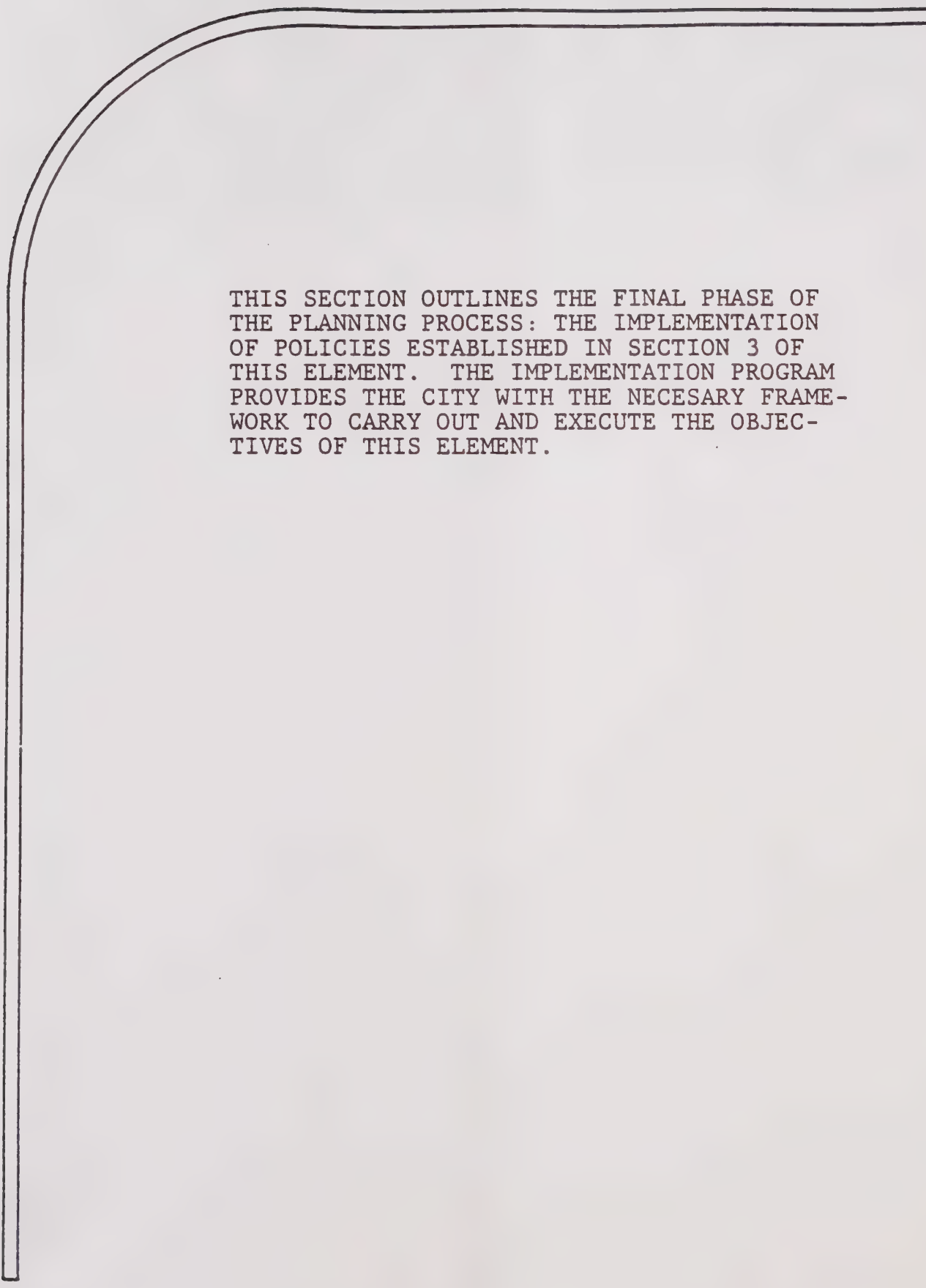
The "Public Parks and Recreation" land use category is applied to open space lands which are owned and maintained by the City for active and passive recreation. This designation is used mainly for neighborhood parks and oceanfront beach areas. A companion land use category entitled "Public/Institutional" includes recreational lands owned and maintained by the School District. These lands are shared between the School District and the City for various recreational activities.

The principle category of land use, however, intended for the conservation of existing natural open space lands, is entitled "Hillside Management/Conservation." This category is intended to promote a balanced management program, focusing on the preservation of open space lands and environmentally sensitive areas while allowing for limited residential development. In order to effectively implement these potentially competing goals, the Land Use Element and Open Space/Conservation Element must work in tandem. For example, the Land Use Element functions to preserve open space land by utilizing a slope/density formula which limits the density of development according to slope conditions. Steep slopes qualify for very low density. In addition to slope/density provisions, other factors must also be examined in conjunction with new development such as the resource maps on biological values contained in this Element. Similar maps exist in the

City's Seismic/Safety Element, but these identify potentially unstable lands, earthquake faults and other natural hazards.

The actual preservation of open space lands and protection of environmentally sensitive areas is therefore established through the development review process which combines the assessment of specific physical constraints with the application of natural resource protection policies and ordinance requirements. This procedure enables the City to regulate the location and density of hillside development while protecting environmentally sensitive areas and open space lands in accordance with general plan policies and local ordinance requirements.

IMPLEMENTATION PROGRAM



THIS SECTION OUTLINES THE FINAL PHASE OF THE PLANNING PROCESS: THE IMPLEMENTATION OF POLICIES ESTABLISHED IN SECTION 3 OF THIS ELEMENT. THE IMPLEMENTATION PROGRAM PROVIDES THE CITY WITH THE NECESARY FRAMEWORK TO CARRY OUT AND EXECUTE THE OBJECTIVES OF THIS ELEMENT.

Section 5: Implementation Program

While the policies of the general plan establish the actions and requirements necessary to direct land use in the City, they must be implemented by detailed measures which collectively form the implementation program. Without these specific implementation measures, the general plan cannot be effective as a commitment to future action. While it is intended that all of these steps will ultimately be accomplished, staffing and funding constraints will necessitate their being undertaken in a phased manner in order of priority ranking. The following programs are presented in order of their category priorities. Included within each program is reference to the appropriate topic number within the text (Section 3) where the associated policies are located.

I. Regulatory Measures:

1. Develop a coastal bluff preservation ordinance, including bluff setback standards. (Topic 1)
2. Develop an "overlay" zoning designation or a similar procedure to delineate and protect scenic corridors. (Topic 7)
3. Develop ridgeline protection measures incorporating objectives listed in Policies 13-A through 13-H. (Topic 13)
4. Develop an enforcement program for the protection of marine life resources. (Topic 2)
5. Develop a program for securing beach access easements. (Topic 3)
6. Develop a program to prioritize park in-lieu fee expenditures. (Topic 5)
7. Develop ordinance restrictions against improper operation of motor vehicles in designated open space areas. (Topic 8)

II. Special Studies/Data Maintenance:

1. Develop standards for maintaining water flow in natural drainage courses. (Topic 9)
2. Develop a map showing permanent open space parcels, where open space easements or development rights have been acquired by a public agency. (Topic 7)

3. Inventory existing informal walking and hiking trails; develop a Master Plan of Walking and Hiking Trails. (Topic 6)
4. Monitor the ecological conditions of tidepools and promote the study and evaluation of local tidepools by educational institutions. (Topic 2)
5. Evaluate major streets for special landscape treatment. (Topic 7)

III. Capital Improvement Programs:

1. Maintain and update the City's Master Plan of Drainage. (Topic 9)
2. Seek funds for the development of a local trail system. (Topic 6)
3. Seek funds to subsidize underground utility districts. (Topic 7)

IV. Public Education:

1. Post informational signs at tidepools. (Topic 2)
2. Promote marine resources education programs. (Topic 2)
3. Promote public awareness programs for walking and hiking trails. (Topic 6)
4. Promote increased public awareness of the possibility of dedicating inaccessible parcels for public open space use. (Topic 7)

V. Programs and Actions Involving Other Agencies and Organizations:

The following items are of primary importance:

1. Oppose the widening of Pacific Coast Highway. (Topic 11)
2. Participate in regional planning efforts to ensure the implementation of the Laguna Greenbelt. (Topic 5)
3. Oppose cancellation of Williamson Act agricultural preserves in Laguna Canyon. (Topic 5)
4. Promote the establishment of effective regional, state and federal air quality standards. (Topic 11)
5. Promote an expanded Marine Life Refuge. (Topic 2)

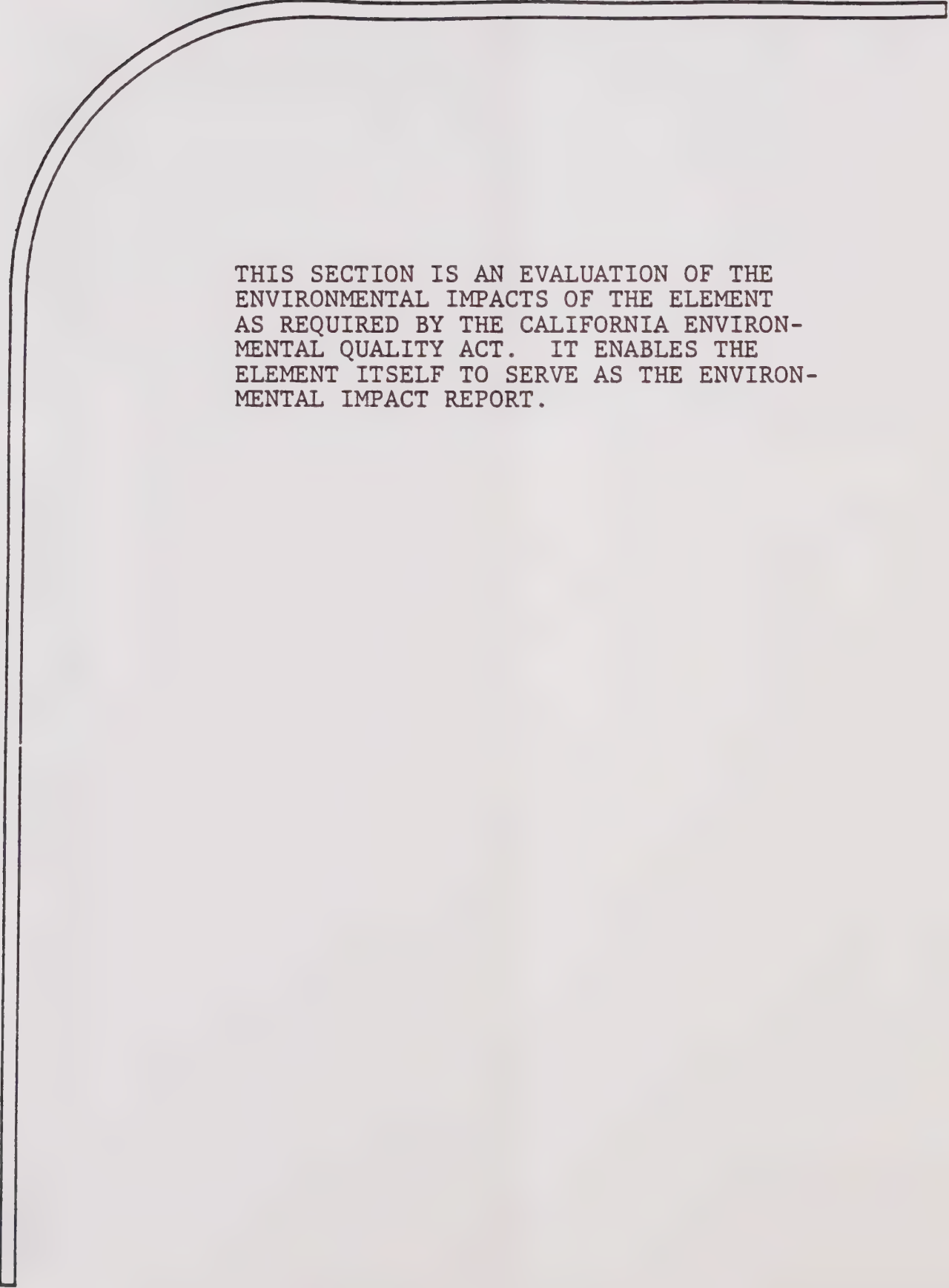
6. Coordinate planning with the County of Orange regarding water quality of Laguna Lakes. (Topic 4)
7. Oppose activities which degrade offshore water quality. (Topic 4)

The following items are important but are less critical:

8. Support non-profit organizations providing care to marine life. (Topic 2)
9. Monitor activities in other jurisdictions affecting sand replenishment in Laguna Beach. (Topic 1)
10. Promote periodic reevaluation of the Orange County Oil Spill Contingency Plan. (Topic 4)
11. Participate in planning for areas adjacent to the city to promote improved air quality and dedication of open space. (Topic 11)

ENVIRONMENTAL IMPACT REPORT

6



THIS SECTION IS AN EVALUATION OF THE
ENVIRONMENTAL IMPACTS OF THE ELEMENT
AS REQUIRED BY THE CALIFORNIA ENVIRON-
MENTAL QUALITY ACT. IT ENABLES THE
ELEMENT ITSELF TO SERVE AS THE ENVIRON-
MENTAL IMPACT REPORT.

Section 6: Environmental Impact Report

Introduction: The California Environmental Quality Act indicates that an EIR may be prepared as a separate document or as part of a project report. The Act specifies the following requirements: "if prepared as part of the project report, it must still contain in one separate and distinguishable section the elements required of an EIR, including the seven elements specified in Section 65143 of these guidelines." (Section 25061.d). This Open Space/Conservation Element has been designed and organized to function as its own EIR, incorporating the mandatory provisions of CEQA.

The Laguna Beach Open Space/Conservation Element will not directly result in significant changes to the physical environment, since the document is a textual plan only, in contrast to an actual development project. The plan is a legislative planning tool designed to guide the preservation and conservation of open space land in the City, and sets forth the foundation for this preservation by establishing community goals and policies. In addition, the Element contains a series of biological survey maps which identify and classify plant and animal species according to their significance in the community. Knowledge of this information will perform a vital role in evaluating land development opportunities within sensitive hillside lands.

Analysis: Given the long-term nature of the Open Space and Conservation Element, it is not practical to apply each of the mandatory CEQA points with the same degree of specificity that is applied to an actual development project. In addition, since the Element assumes a very broad orientation, it not possible to assess specific environmental issues which may arise through implementation of the document. Therefore, this EIR represents the first step in a series of environmental assessments, with the final assessment made at the specific project level.

Presented below is an explanation of the seven points of CEQA as they apply to this Element.

1. Description of the Project: This project involves the revision and adoption of the Open Space/Conservation Element for the City of Laguna Beach. The purpose of the project is to promote the protection and conservation of the City's natural resources and open space lands, for their scenic

beauty and ecological and recreational value. A more complete description and explanation of the project is contained in Section I of this document.

2. Description of Environmental Setting: The Open Space and Conservation Element has citywide application. Generally, the City is characterized by a number of natural physical features including 4.2 linear miles of coastline, coastal bluffs, pastoral hillsides, undeveloped ridgelines and canyon bottoms. A more detailed description of the environmental setting is contained in Section II of this document.
3. Environmental Impacts and Mitigation Measures: The intent of this project is to establish an effective guideline for the preservation and protection of open space lands within Laguna Beach. The Open Space and Conservation Element identifies and evaluates the major issues associated with open space in Laguna Beach. Since several of these issues may significantly impact the City, each issue paper is followed by a group of policies designed to resolve or mitigate these problem areas. In this context, the policies function to mitigate significant environmental effects (refer to Section III for discussion of specific issues and policies). Many of the policies require immediate action, while other policies recommend special studies to alleviate open space problems. As these special studies develop, they will invariably disclose additional environmental impacts that will require subsequent evaluation.

Given the generalized nature of the Open Space/Conservation Element, it is not expected to cause any adverse environmental impacts. On the contrary, implementation of this element is expected to result in positive environmental impacts, by promoting the conservation and protection of significant and sensitive ecological features within the City.

4. Alternatives to the Proposed Action: An extreme alternative to this project would be "no project", meaning no Open Space/Conservation Element. This decision would be violative of state law which mandates the adoption of certain general plan elements, inclusive of the Open Space/Conservation Element. In addition, this decision would leave the City without an updated comprehensive Open Space/Conservation Element to guide and promote preservation of the community's open space. Other alternatives to this project could involve a variety of changes to the issues, policies and implementation program of this element. These alternatives could include protection of certain environmental resources, while neglecting others or reassigning values and policies for the protection of significant natural resources. This approach, however, was discounted from consideration, since it would result in an unbalanced open space management program.

5. Relationship between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity: The Open Space Element is intended to provide the legislative authority for long-term decision making concerning issues relating to the City's natural open space environment. By establishing such requirements, the City can more effectively manage its longer term interest in the face of day-to-day decisions which cumulatively may affect these more distant aspirations.
6. Any Significant Irreversible Environmental Changes Which Would be Involved in the Proposed Action should it be Implemented: Since the Open Space/Conservation Element is intended to safeguard the community's natural environment, adoption and implementation of the document is expected to exert a positive influence in the City. As a consequence of this document, new development in the City will be responsive to the natural qualities of the environment, thus insuring proper care and management of significant or unusual natural amenities and resources.
7. Growth Inducing Impacts: The Open Space and Conservation Element is not expected to have any growth-inducing impacts. This element, in fact, may have the opposite effect, in that it proposes the preservation and protection of a variety of open space features, including sensitive vegetative and wildlife habitats, and significant geological, environmental and aesthetic factors. Implementation of the Open Space and Conservation Element is more likely to facilitate a balanced Hillside Management Program focusing on open space lands and environmentally sensitive areas, while allowing for limited residential development.

ADDENDUM TO OPEN SPACE/CONSERVATION ELEMENT

The following policies were derived from the South Laguna Specific Plan (SLSP) and are herein by reference added to the Laguna Beach Open Space/Conservation Element. In an effort to consolidate the SLSP with the Laguna Beach General Plan, some policies from the SLSP have been added to either the Land Use Element, the Housing Element, the Seismic and Public Safety Element or the Transportation/Circulation Element. Other policies in the SLSP have been eliminated due to the existence of comparable policies in the City's General Plan. The following additions/changes are to be included in the text of the document upon the next reprinting of the Open Space Element.

SECTION 3: Issue Statements and Policies

Page 14 Add 1 - J to policies regarding Coastal Land Features;

- 1 - J In order to maintain stable channel sections and the present level of beach sand replenishment, sediment movement in natural drainage channels shall not be significantly changed.

Page 24 Add the following to policies on Public Beaches and Shoreline Access;

- 3 - H In providing for legal access, the City shall seek to protect the health and safety of residents and property owners from illegal and irresponsible public access.
- 3 - I Promote acquisition of lateral and vertical beach and bluff top access where appropriate. The lack of public parking shall not preclude the development of an accessway.
- 3 - J Base assessment of potential accessways on a priority system. The criteria for the priority system shall include consideration of the number of people who can be accommodated by the facility, the possibility of safety hazards, the impact of visitation on the site, the potential for support facilities and the potential for public transport to the site by private automobile, public transit, bicycle or foot. In addition, priority should be given to accessways that alleviate public trespass over private property and which facilitate law enforcement and beach maintenance efforts.

- 3 - K Determine the maximum acceptable levels of public use and methods by which resource values are best protected in areas of existing or potential access where habitat and resource protection have been identified as sensitive.
- 3 - L Seek to provide access in South Laguna as shown on Figure 5.
- 3 - M The provision, maintenance and enhancement of public non-vehicular access to the accessway shall be of primary importance when evaluating future improvements, both public and private.

Page 32; Add the following text to discussion on trails.

Pedestrian movement in the central village areas of South Laguna is via an easement/alley network. A system of continuous pedestrian ways through the community parallel to PCH and connecting with the beaches and hillsides should be encouraged. Trail linkages are proposed throughout the hillside open space areas with connections at the urbanized fringe.

Page 32; Amend Policy 6-F to read as follows; As a condition of development approval, require the dedication and improvement of public trail easements, if such trails appear on the proposed Master Plan of Hiking and Walking Trails.

Page 33; Add the following to policies on Trails;

- 6 - H Preserve a continuous open space corridor within the hillsides in order to preserve natural resources and recreational opportunities.
- 6 - I Educational and interpretive programs and displays should be provided to increase public awareness of needed resource protection.
- 6 - J Trails and access improvements including stairs, ramps, railings, restrooms and parking facilities should be sited and designed in a manner compatible with the goals of maximized viewshed protection.
- 6 - K Ensure that new development does not encroach on accessways nor preclude future provision of access.
- 6 - L Provide public pedestrian access to Open Space/ Recreation areas, where appropriate.
- 6 - M The trail network throughout the hillside areas shall be oriented to hiking or passive pedestrian

recreational use and by design, shall prohibit vehicular or equestrian use.

Page 35; Amend Policy 7 - F to read as follows (Visual Resources).

- 7 - F As a condition of approval for new building construction, require the dedication of open space easements, development rights, or the use of some similar instrument for the purpose of protecting unusually significant natural features. Preserve and provide an optimum setting for prominent site features such as natural rock outcroppings, promontories and ridges.

Page 36: Amend Policy 7 - H by adding this sentence to the end of the paragraph: In any case, development should not be visible from the floor of Aliso Canyon.

Page 36: Add the following policies;

- 7 - I Public acquisition and management of notable geologic features and vista sites should be achieved.
- 7 - J Assume planning and management responsibility for land acquired through the purchase/acquisition of open space easements.
- 7 - K Preserve as much as possible the natural character of the landscape (including coastal bluffs, hillsides and ridgelines) by requiring proposed development plans to consider scenic and conservation values, impacts on soil mantle, vegetation cover, water resources, physiographic features, erosion problems, and recontouring and replanting where the natural landscape has been disturbed.
- 7 - L Pursue public acquisition of Aliso Rock.

Page 43; Add the following discussion to Topic 8 (Vegetation and Wildlife);

Inventories and assessments of the vegetation in South Laguna Hills have been prepared by numerous biologists and ecologists. A summary of reports is as follows:

Letter	David S. Verity, UCLA	07/22/71
"Proposed Natural Area South Laguna General Plan"	Gordon A. Marsh, UCI	01/11/72
Letter	Ted L. Hanes, CSUF	01/20/72
"Ecological Analysis of the South Laguna Hills"	John R. Price & Associates	10/27/72
"Biological Resource Study"	Dr. Philip W. Rundel & Assoc.	01/11/74
"South Laguna Community Plan-Biological Assessment"	EDAW, Inc.	08/01/79

The reports generally agree that the vegetation represents a botanical as well as visual and slope stabilizing resource. "The chaparral and coastal sage shrubs are some of the best examples of their type remaining in Orange County. They are relatively high in species diversity and contain several unique botanical features." (P.2 EDAW Report) These features include:

Unusual Plant Species Occurrence in South Laguna. An unusual mixture of California mixed chaparral, and South Coastal mixed chaparral associations occurs in the area. The California mixed chaparral is found from the Klamath Mountains and Coast range of Northern California to the foothill and mountains in Southern California, usually at elevations in excess of 1,000 feet above sea level. (Dr. Philip Rundel and Associates, Biological Resources Study, 1974). The South Coast mixed chaparral is found in the coastal foothills of San Diego County and Northern Baja, California. Thus its Laguna Beach occurrence is well outside its normal range.

The South Laguna area is the northern most known location of the South Coastal mixed chaparral and of several of its characteristic plant species: bush rue (*Cneoridium dumosum*), small flowered mountain mahogany (*Cercocarpus minitiflorus*), warty-stemmed ceanothus, (*Ceanothus verrucosus*), summer holly (*Comarostaphylis diversifolia*) and a geographical variety of chamise (*Adenostoma fasciculatum* var. *obtusifolium*). Bid-podded ceanothus (*C. megacarpus*), which normally grows well inland, is found in abundance in South Laguna Hills.

Rare and Endangered Species. Three species of rare and endangered plants occur in the South Laguna Hills. These are the Laguna Beach Live-Forever (*Dudleya stolonifera*), Many Stemmed Live-Forever (*D. multicaulis*) and Orange County Turkish Rugging (*Chorizanthe staticoides* spp. *chrysacantha*). Those plants occur in specific and limited habitats, the *Dudleyas* (small rosette shaped succulents) are found in steep moist, usually north facing slopes. The *Dudleya stolonifera* occurs in the South Laguna portion of Aliso Canyon and in Laguna Canyon and has not been sited anywhere else. Turkish rugging typically occurs on sandy bluffs near the coast, and has been noted on or near fire roads and trails on the ridges in the South Laguna Hills.

Wildlife Habitat. The vegetation associations provide excellent wildlife habitat areas: mountain lion and golden eagles have been sited in the past; deer, small birds, small and medium mammals and a limited number of reptiles inhabit the site (EDAW Inc. South Laguna Community Plan - Biological Assessment, 1979).

Page 45; Add the following to policies on Vegetation and Wildlife Resources;

- 8 - K As a condition of new development in South Laguna, require the identification of environmentally sensitive areas, including chaparral and coastal sage scrub. Intrusion into these areas for wildlands fuel modification programs should not be permitted.
- 8 - L Preserve and protect fish and/or wildlife species for future generations.
- 8 - M Preserve a continuous open space corridor within the hillsides in order to maintain animal migration opportunities.
- 8 - N Encourage the preservation of existing drought-resistant, native vegetation and encourage the use of such vegetation in landscape plans.
- 8 - O Map environmentally sensitive areas in South Laguna and include these areas on City maps. (ESA and Biological Resources Map.)

Page 51; Add the following sentence to Policy 9 - M relating to watersheds and watercourses.

- 9 - M "...In cases where structural methods are chosen, drainage structures shall be invisible conveyances, undergrounded and revegetated to camouflage any disturbance created during construction."

- 9 - U Restore and retain Aliso Creek in a natural state and protect the Creek from infringement of new development.
- 9 - V Protect Aliso Canyon Area from any increase in flow which might have adverse impacts on the water quality in Aliso Creek and prevent excessive erosion and sedimentation and emphasize the prevention of siltation from adversely impacting the South Laguna Marine Life Refuge.
- 9 - W Actively work with the County on approval of Aliso Viejo Drainage Plan to ensure the integrity of water quality in Aliso Creek.

Page 55; Replace Policy 10 - B and 10 - C with the following;

- 10 - B Require the incorporation of open space into the design of new development in hillside and canyon areas wherever feasible, for the purposes of reducing potential wildfire damage. Require the rehabilitation of sensitive species following such occurrences.
- 10 -C Require projects located in geological hazard areas to be designed to avoid the hazards, where feasible. Stabilization of hazard areas for purposes of development shall only be permitted where there is no other alternative location or where such stabilization is necessary for public safety. The more unstable areas should be left ungraded and undeveloped, utilizing land use designations such as Open Space.
- 10 -G Fuel modification plans, where appropriate shall be included within the boundary of the developed land use zone.

Page 59; Add the following text to the discussion on Archaeology and Paleontology;

Cultural/Scientific Resources in South Laguna

a. Existing Conditions

South Laguna contains approximately eleven recorded archaeological sites, several of which are of interest to the Native American Community. In addition, the community contains one recorded paleontological site.

The most significant known archaeological sites are located within the bounds of Treasure Island and near Niguel Hill. Archaeological remains within Treasure Island include a burial site. Artifacts collected near Niguel Hill include shell midden detritus.

b. Issue Analysis

Coastal issues relating to cultural/scientific resources all focus on the need for proper mitigation measures, including preservation for archaeological and paleontological resource sites.

Page 59; Add the following policies;

- 12 - C Development adjacent to a place, structure or feature found to be of historical significance shall be designed so that the uses permitted and the architectural design will protect the visual setting of the historical site.
- 12 - D Preserve cultural/scientific sites, including geologically unique formations having archaeological significance.

SECTION 4: Land Use Plan Categories

Page 67; Paragraph 2, line 6 is hereby amended to read as follows:

"...The City's Land Use Plan Map uses four categories of land..."

Paragraph 4, lines 1,2 and 3 are hereby amended to read as follows:

"The category of land use is entitled "Hillside Management/Conservation." This category is intended to"

A new paragraph is hereby added to read as follows before the last paragraph on page 68:

"The principal category of land use, however, intended for the conservation of existing natural and open space lands, is entitled "Open Space". This category is intended to preserve land in its natural state for open space purposes exclusively. Lands within this category are typified by special ecological, geographical and historical importance."

Incorporate the following information from the South Laguna Specific Plan to appropriate sections of the Open Space Element upon its revision;

ENVIRONMENTALLY SENSITIVE HABITAT AREAS

1. Existing Conditions

Aliso Canyon

Aliso Canyon is an area of significant habitat and resource value. The canyon contains a rich mixture of riparian, coastal sage scrub and coastal chaparral species with distribution dependent upon elevation and exposure.

Riparian vegetation is found along stream courses where moisture is at or near the surface throughout the year (see Figure 3). The vegetation is dominated by dense stands of willows broken by stream course marsh vegetation, including Cattail and Olney Bulrush. Located within this type of environment is the Aliso Creek Lagoon, a hyposaline marsh, that exhibits a diverse collection of aquatic plants such as salt grass, pickleweed and eel grass.

The most significant vegetative species occurring in the canyon is a small succulent, *Dudleya stolonifera*, an endemic plant unique to Orange County. It is primarily found mixed with other varieties of *Dudleya* in the southeastern portion of the canyon and along the steep hills to the south. The significance of the *Dudleya* occurrence is amplified by the existence of a rare species which occurs only in this area of Orange County, the occurrence of a second species at the northernmost reach of its range, a third genetically significant species that has two times the chromosome count of the others, and a fourth common variety of *Dudleya*. The coincidental establishment of these four and the hybridization that occurs is as, if not more, significant than the occurrence of the singular species.

Wildlife which have used the canyon in the past include eagles, mountain lions and deer. Historically, it has been reported that a pair of Golden Eagles have been sited on the wall of Aliso Creek Canyon, near Niguel Hill, and that brown pelicans have been spotted actively feeding at the lagoon and inlet. Both are considered endangered species.

South Laguna Hills

The South Laguna Hills are profusely covered with two dominant plant communities: Coastal sage scrub and coastal chaparral. Distribution of these communities is dependent upon microclimatic variations within the area with ridgetops and south facing slopes predominantly supporting coastal sage scrub. Canyon bottoms and north-facing slopes, with a cooler and more humid environment, predominantly support chaparral.

Dominant plant species of the coastal sage scrub communities present in the study area include Laurel-Sumac, California Sagebrush, California Buckwheat, Black Sage, Lemonade Berry, Bigpod Ceanothus, and Bush Rue. Bush Rue, which is a rare species in Orange County, is at its northern limit of distribution.

The dominant shrubs of the chaparral communities include Chamise, Scrub Oak, Lemonade Berry, California Holly, Hollyleaved Redberry, Prickly Pear, and Mission Manzanita. Mission Manzanita is rare in Orange County, but is found in canyons above Pacific Island Drive.

The effects of the close proximity of the ocean and absence of many of the stress conditions normally associated with this vegetation type have allowed the occurrence of many species typically found at higher elevations. The canyon system is particularly unique in that some of the species which occur here in great abundance are not found anywhere else in the region. Relatively humid conditions and the lack of recent fires have allowed the vegetation to achieve a state of very vigorous growth. Some species which grow four to six feet high normally reach as much as ten feet in South Laguna.

The hillsides contain a rich sample of bird species which utilize the chaparral dominated area for food and shelter. Also, a number of species utilize the steep terrain and prevailing winds to forage over the area or pass through the area in transit. A number of bird species have been identified that include the Wrentit, California Thrasher, Red Tailed Hawk, White Tailed Kite and Common Towhee.

Marine Resources

A small estuary occurs at the mouth of Aliso Creek. As recently as 1976 this estuary supported the Tidewater Goby, a species considered uncommon and declining in numbers due to habitat loss.

A resource inventory included in the Orange County Conservation Element identifies the presence of the South Laguna Marine Life Refuge in the South Laguna area (Figure 3). The refuge, near the mouth of Aliso Creek, was given refuge status by the California Fish and Game Commission because the animal populations in the rocky intertidal habitat had not been subjected to the collecting pressures that had occurred in other areas along the South Coast. The California Department of Fish and Game has indicated a concern regarding a potential impact in sediment-laden storm water runoff from Aliso Creek watershed or organisms found in the South Laguna Marine Life Refuge.

Rocky shore areas which are important intertidal areas are present in South Laguna.

2. Issue Analysis

Approximately 22 percent of the land in South Laguna has been offered for dedication by the property owners. In addition, all identified sensitive habitats have been placed in Open Space designations, subjecting those areas to additional limitations and regulations.

The protection of environmentally sensitive habitat areas is a primary objective of the City's General Plan and associated relevant planning programs inclusive of the Greenbelt Management Program and the Aliso Creek Corridor Specific Plan.

Approved development within the coastal zone will have an incrementally adverse impact on the abundance and species composition of wildlife and vegetative resources. Various impacts to vegetation/wildlife at the development edge from residential ownership and added irrigation are considered unavoidable.

3. Watershed Management

a. Existing Conditions

A series of issues were raised during the planning efforts involved with the preparation of the South Laguna Specific Plan. Primary issues related to the need to protect drainage channels, streams, sensitive areas and downhill development from the effects of increased urban related runoff. Specific issues have focused upon the need to :

- o Control erosion and related siltation.
- o Protection of habitat values.
- o Protect water resources from the effects of sedimentation.
- o Need for a drainage control plan linked to an overall watershed wide management objective.

Issue Analysis

The South Laguna Specific Plan recommended that proposed hillside development generate Runoff Management Plans similar in scope to that as detailed for the adjacent Aliso Viejo Segment as conditions of development approval.

Specifically, the management program should achieve peak runoff flows equal to or less than existing conditions. The plan should integrate drainage studies, preliminary engineering designs and methodologies and the findings of biologists into a mitigation program.

Specific runoff control measures should be incorporated into the management plans and include, but are not limited to:

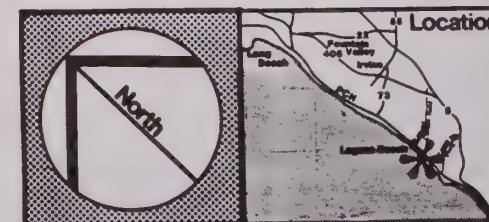
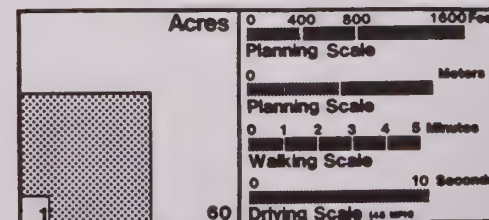
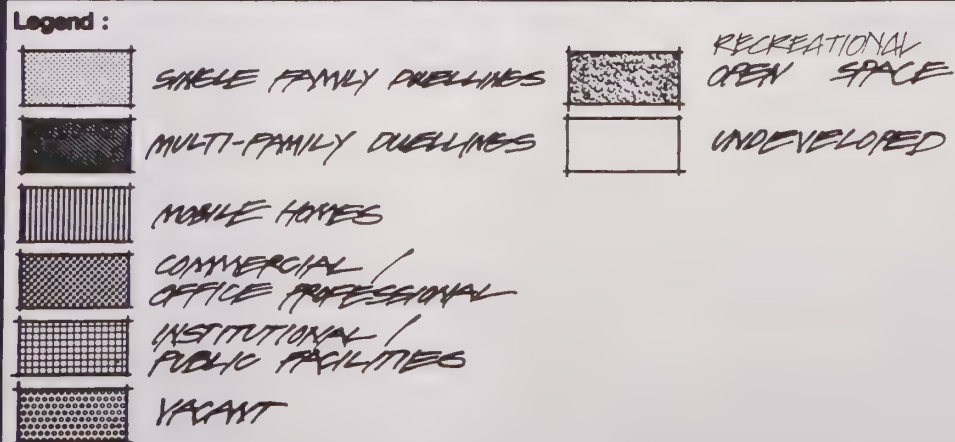
- o Grading design for drainage
- o Canyon preservation
- o Diversion of runoff exceeding natural flows to street storm drains.
- o Landscaping/erosion control

Other runoff controls include:

- o installation of energy dissipators to diffuse runoff.
- o creation and maintenance of catch basins.

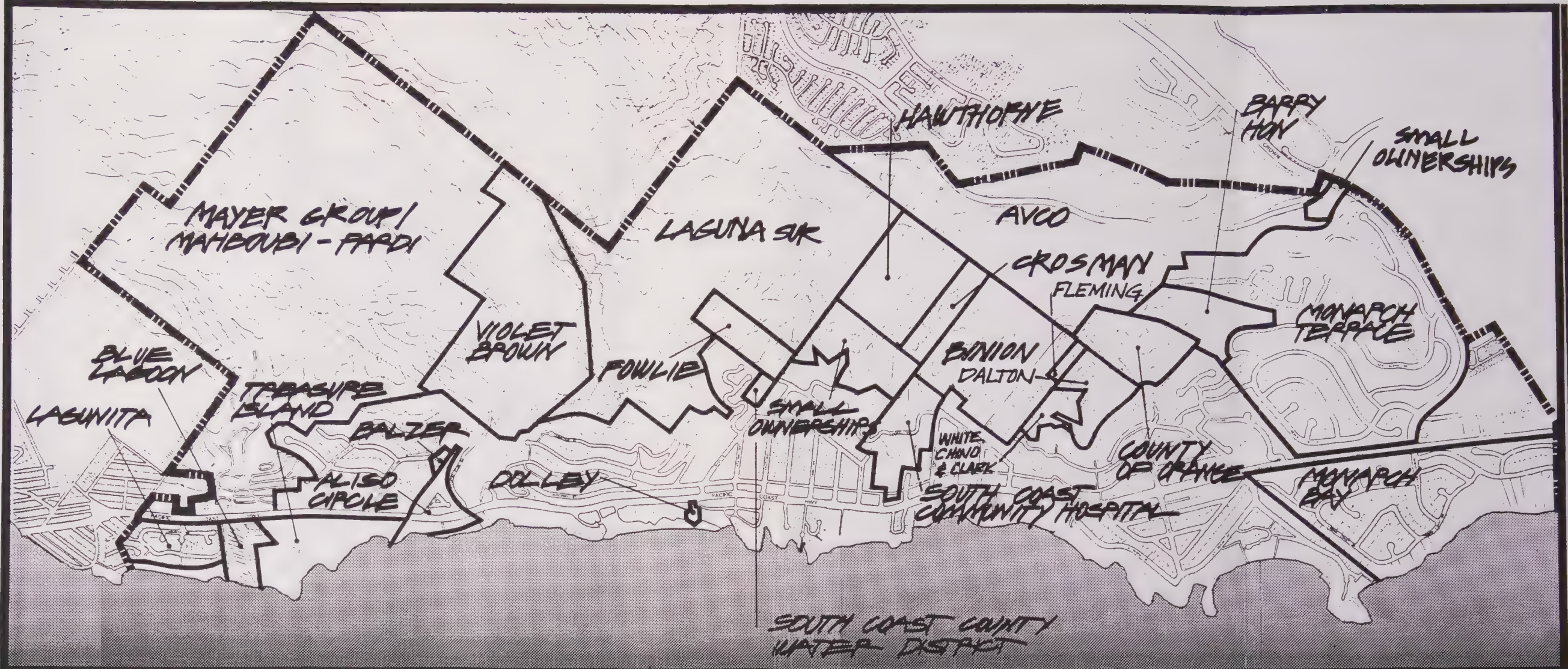


SOUTH LAGUNA SPECIFIC PLAN LOCAL COASTAL PROGRAM



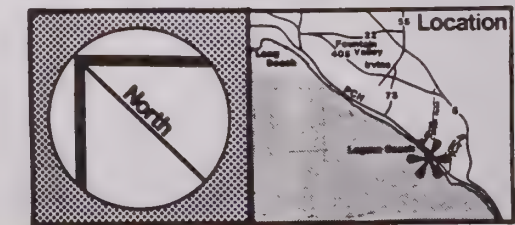
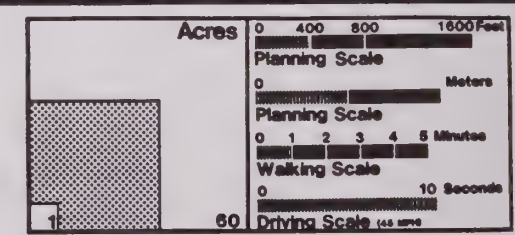
Information Source:
COUNTY OF ORANGE EMA, 1980;
VTN, 1978; GENGE, 1980.

Prepared For:
County Of Orange
Prepared By:
Genge Consultants
Basmaciyan - Darnell, Inc.
Peter Bass & Associates



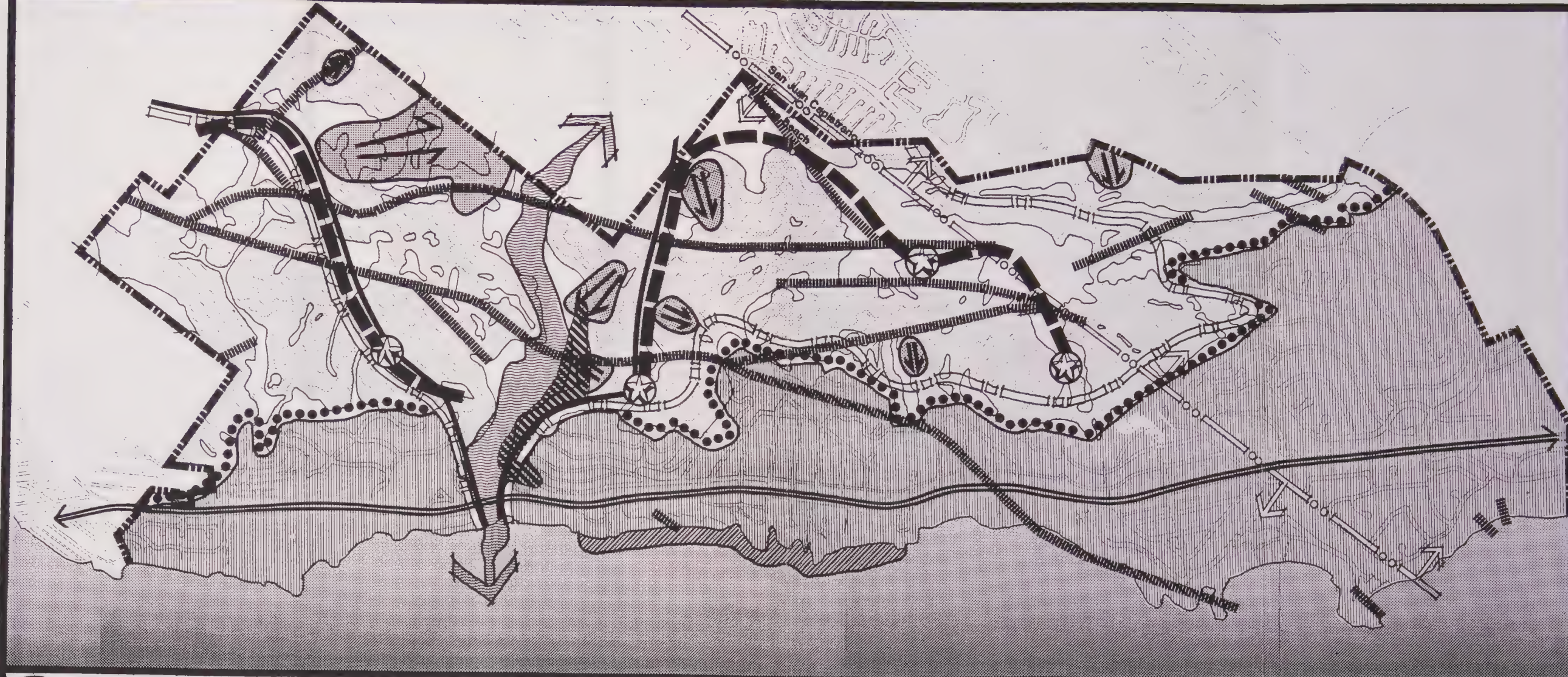
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Legend :
 OWNERSHIP BOUNDARY

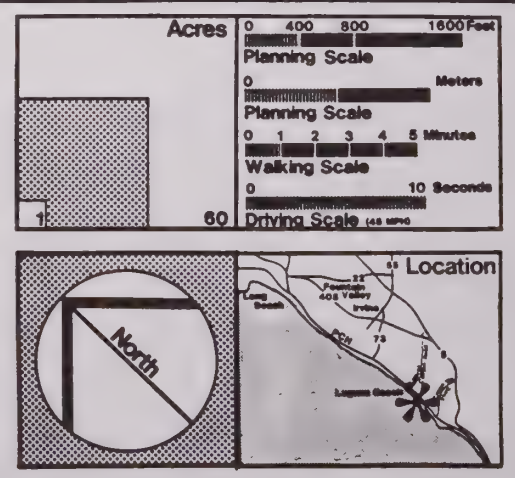
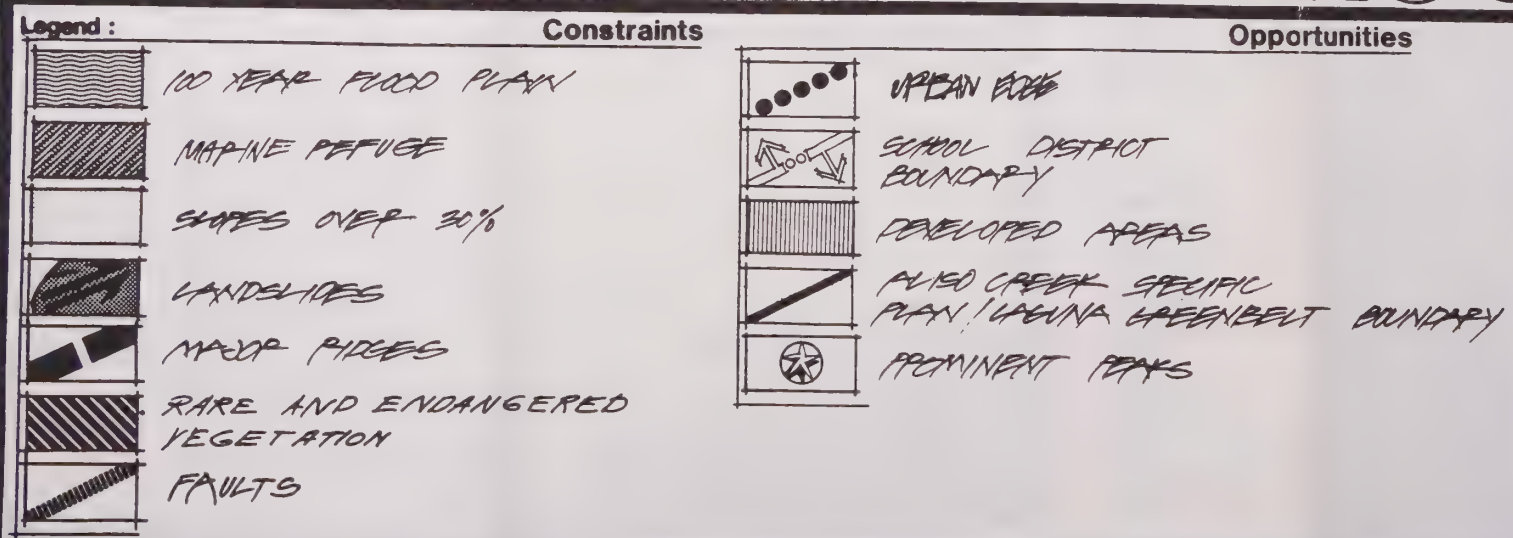


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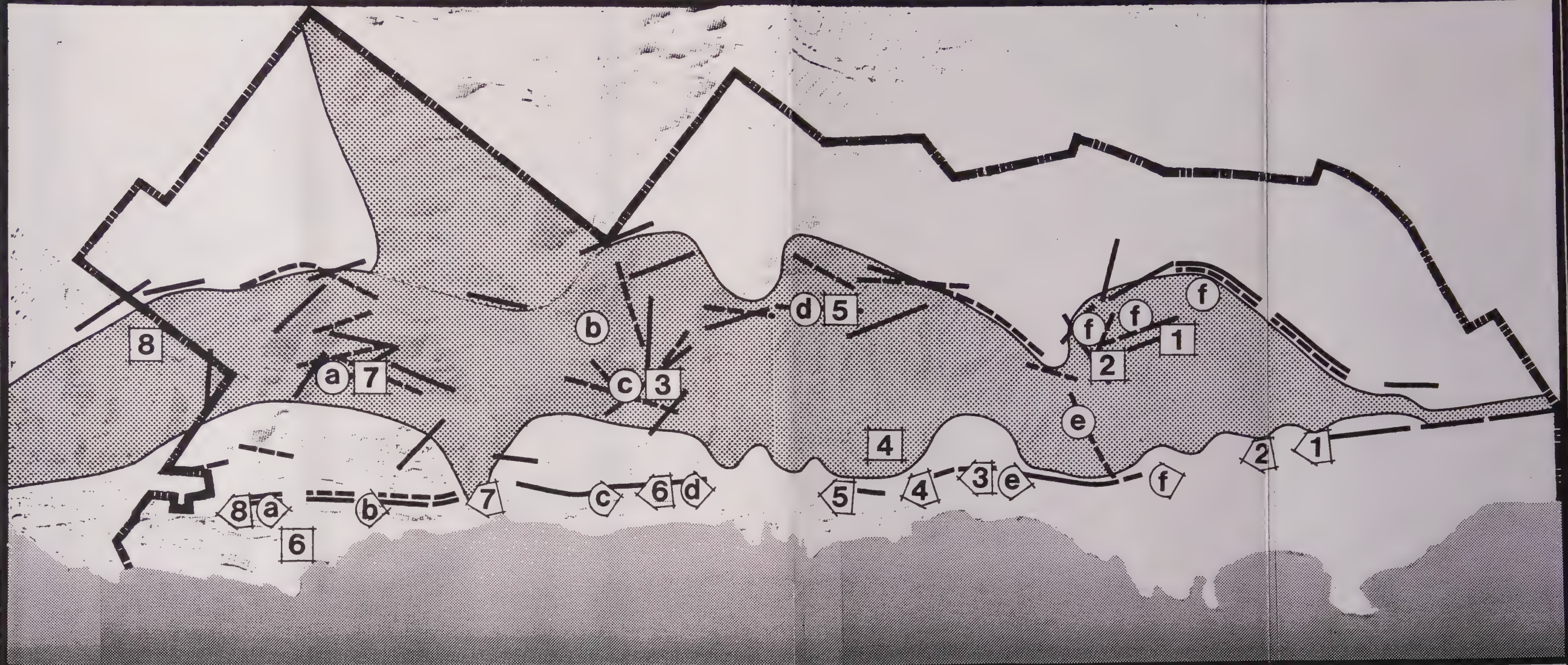
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Information Source:
 SAN JUAN CAPISTRANO UNIFIED SCHOOL DISTRICT; LAGUNA BEACH UNIFIED SCHOOL DISTRICT; COUNTY OF ORANGE EMA (RESOURCE COMPONENT, 1980); SCS SURVEY, 1976; CALIFORNIA DIVISION OF MINES AND GEOLOGY, 1973; COUNTY OF ORANGE SECTIONAL DISTRICT MAP, 1980; GENGE, 1980; ALISO GREENBELT MANAGEMENT PLAN, 1979; ALISO CREEK SPECIFIC PLAN CONCEPT, 1977.

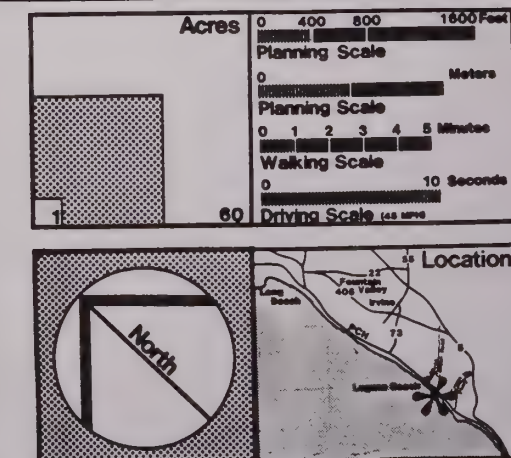
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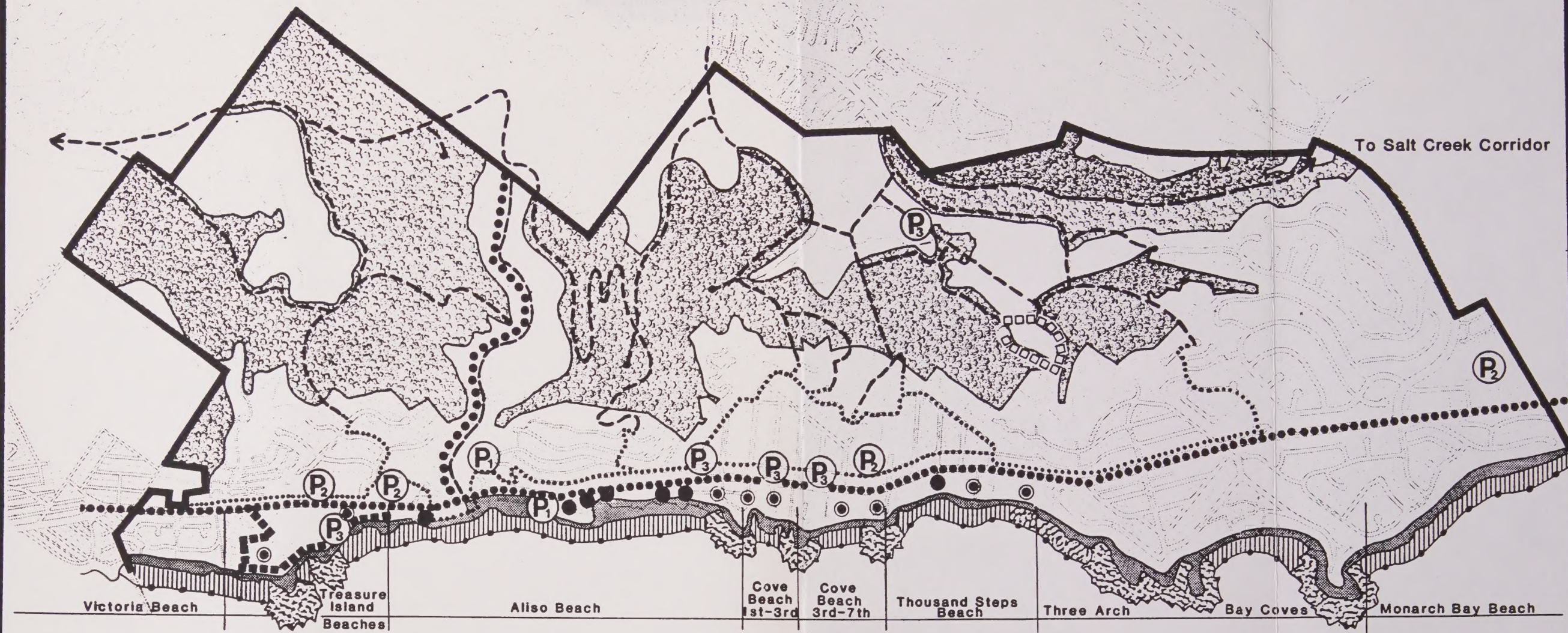
- Legend :**
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 - VIEW ORIGIN POINT (LOOKING NORTH FROM PCH)
 - VISIBLE TOPOGRAPHIC BOUNDARY (SOUTH)
 - VISIBLE TOPOGRAPHIC BOUNDARY (NORTH)
 - VISIBLE POINT (LOOKING SOUTH FROM PCH)
 - VISIBLE POINT (LOOKING NORTH FROM PCH)
 - VISUAL CORRIDOR (VARIABLE EDGE)



Information Source:
 GENGE, 1980.

Prepared For:
 County Of Orange

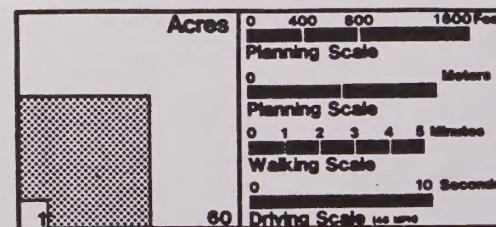
Prepared By:
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SOUTH LAGUNA SPECIFIC PLAN LOCAL COASTAL PROGRAM

Legend :

- | | | | | | |
|---|----------------------------|---|-------------------|---|--|
|  | EXISTING PUBLIC ACCESSWAY |  | BIKE TRAIL |  | PUBLIC TIDE LANDS (APPROXIMATE) |
|  | PUBLIC ACCESS OPPORTUNITY |  | BLUFF TOP TRAIL |  | PARKING |
|  | LATERAL ACCESS EASEMENTS |  | PUBLIC OPEN SPACE |  | 1. EXISTING PUBLIC
2. EXISTING PRIVATE
3. POTENTIAL |
|  | HILLSIDE OPEN SPACE TRAILS |  | SANDY BEACH |  | ALTERNATIVE HILLSIDE OPEN SPACE TRAIL ALIGNMENTS
SEE POLICY 5 |
|  | COMMUNITY TRAILS |  | ROCKY SHORE | | |



Information Source:

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